Vol. II

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1926

No. 365

ALBERT OTTINGER, AS ATTORNEY GENERAL OF THE STATE OF NEW YORK, APPELLANT,

vs.

KINGS COUNTY LIGHTING COMPANY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE EASTERN DISTRICT OF NEW YORK

FILED MAY 6, 1926

(31,003)

(31,903)

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[fol. 813] ALTEN S. MILLER

Cross:

This pamphlet is the standard specifications of the American Gas Association for cast iron pipe and specials. It is my understanding that this is what Mr. Duncan referred to in his testimony. These are the specifications under which the gas companies do buy pipe, and I would assume that they would include such a specification when they buy pipe through a contractor as well as when they buy it from pipe foundries.

The information as to the weight per lineal foot of cast iron pipe is given on page 9. That page gives the details of various diameters of pipe used in the construction of the main system of a gas company at the present time. Up to 46 inch, from 4 inch to 48 inclusive. That pamphlet is labeled American Gas Institute. The Association was the successor of the Institute. The Institute was merged with the National Commercial Gas Association into the American Gas Association, and I think that this is the final form, but I am not sure. There may have been some minor changes since this one was adopted, but I don't think so. This particular specification was adopted in 1911.

The companies usually order by this specification. Not necessarily so, but they usually do. The specifications was made to, conform to the practice of companies originally, the idea being that by bringing everybody into agreement we could buy pipe cheaper. That was the purpose of this specification, so that the foundries would only have to carry [fol. 814] one set of pipe and one set of specifications for cores. If they had any stock over-run at any time, it would conform to the specifications of the ordering companies. When we started work on this, every company had its own specifications and many times they ran very much over weight.

I started on this about 1900, 1899 or 1900. They also use a small amount of what was called weight pipe, but not very much, the general practice was heavy weight, particularly in fittings. The fittings would run 30 to 40 per cent. over weight and there were not standards at all. That is the particular point that I had in mind when I started on that specification, to check the over-run weight on fittings. The pipe ran very much more uniform.

Mr. Hyatt: Well, I would like to offer in evidence the first nine pages, including the 9th page, of this pamphlet which Col. Miller has produced, for the information of the Court. Have you any objection to that, Mr. Moran?

Mr. Moran: I object to it, because this record *wal* already very voluminous, and I don't see how it will be helpful.

Mr. Hyatt: I should think you would be happy to have that go into evidence, because it gives a foundation for Mr. Duncan's figures.

[fol. 815] Mr. Moran: All right, but you needn't worry about that. I don't see what materiality it has, but if you want to put it in, all right.

The Master: Do you make any objection?

Mr. Moran: Only that it is immaterial.

The Master: Objection overruled. It may be received and marked Defendants' Exhibit No. 7.

(The pamphlet is received in evidence and marked Defendants' Exhibit No. 7.)

I have Plaintiff's Exhibit 40 here, that is my estimate of the expenditures necessary to put the 55th St. Works and the 65th Street S-tion of the Kings County Lighting Company in the condition in which they were when new. On page 4, the item of the cost of the repairs to the mast and gaff, with the figure of $500 set opposite there refers to the coal derrick on the dock for unloading the barges of coal.

The last time I made the inspection of that piece of property was about—just before I testified here on my direct, I think, or just immediately afterwards; just about that period. It is my opinion that it would not cost more than $500 to put that in a state of repair so that when thus repaired it would be in the condition it was in when new. I don't know that it would necessarily cost that much. It is a derrick. The arm swings, raises and lowers and swings. It has ropes, steel ropes. That is partly exposed to weather. The engine which operates it is in a house. The mast and gaff itself are exposed to the weather, and such part of the [fol. 816] ropes as run outside are exposed to the weather. I do not know what that mast and gaff cost at the time they were new. I know what it would cost to reproduce the mast and gaff now. The mast and gaff with the engine and equipment would cost $10,716. The whole equipment of the mast

and gaff would be $10,716. The mast and gaff without the engine or the bucket and ropes, would cost $3,485 on a subcontract basis. It is made of steel. I don't know whether or not since I made the inspection these repairs have been actually made to the mast and gaff by the plaintiff. I presume not. It is not necessary that they be immediately made. The books of the plaintiff would not show what the annual cost in repairs to this mast and gaff was for any particular year. They are not so kept. That would be a part of the cost of maintenance of the works and station structures. It would probably be included in that heading "Works and Station Structures." It might be under equipment repairs, I am not quite sure. I am not sure how they would charge it, and there is always some question on coal handling machinery as to whether to charge it to maintenance or even as capital. The arm of the derrick is movable. The expenditure of that much money was on such [fol. 817] parts as might be necessary to be repaired. There is no evidence that there was anything necessary, except some painting and a few slightly bent members, and an allowance for overhauling the engine. There is no indication that it was really necessary, but an allowance large enough to permit that was made to be on the safe side.

On page 5, I have an expenditure of $109 repair the boiler. I do not know when that boiler was installed and this work that was to be done was for welding and overhauling. That boiler is out on the dock of the Plaintiff's property at 55th Street. It is covered. I don't know how long it has been since that boiler was operated. I don't know whether it was operated yesterday or this morning. I don't know whether it is in daily use or not. I don't suppose it is in use when no coal comes in. I think it is usually used when coal comes in. It is a fact that the steam which operates the hoisting engine on the dock is furnished from the boiler room of the plant and not from the boiler adjacent to the hoisting engine, that is, at times only; at times and in part only, when the demand is great enough, as frequently happens, this boiler is used. In addition to the steam from the main boilers, this boiler is used. At other times the steam from the main boilers is sufficient to do all of the hoisting. I get [fol. 818] the information that I have just now given from the operation of the plant. That is, from actual observa-

tion. I have no knowledge of any books of the plaintiff that would give me any information on that subject.

On page 6 here, and more particularly the portable transfer chute, I have an item "Plate in bottom and new plate on side, $26.47." Speaking generally, in reference to items included under what I call the coal conveying machinery, dock and coal shed, on page 4 of Plaintiff's Exhibit No. 40, and going over each of these items included under the coal-conveying machinery on pages, 4, 5 and 6, and some on page 7—speaking of the conveying machinery as a whole from the dock to the portable transfer chute mentioned on page 6, I would not advise the expenditure of the sums of money indicated by me on those pages, meaning pages 4 to 6 inclusive, if I knew that it was the intention of the plaintiff to remove that overhead coal-conveying equipment. It is not necessary at this time. When I made up my estimate of the cost to restore to a serviceable condition equal to new, machinery on the overhead coal trestle, I did not confer with Mr. Bogie to ascertain whether or not he had prepared plans for a new design of trestle. In reference to the furnaces, boilers and accessories, I have not examined the books to ascertain how much was spent for repairs from June 1st to December 31st, 1923.

[fol. 819] ALTEN S. MILLER

Cross:

Any property such as furnaces and boilers can be restored to a condition equal to what they were when new if they have been continually and properly maintained. My answer means that the boilers and furances can be restored to the same serviceability. It includes everything. Assuming a boiler that has been in use for five years, and using my method, also assuming that the property has been fairly well maintained, that five years' use has not in any way abridged the duration of life of that boiler if that maintainance is continued. The same answer also would apply to a furnace if the furnace were maintained in good condition. I mean the ordinary furnace for generating heat, that is the boiler furnace under the boiler. So far as condition is concerned the boiler and the furnace are new in the sense in which they were when they were first purchased

and installed. After it is put in the same condition in which it was when new, the same rate of repairs would maintain as though it were put in new at that time. So far as the boilers and furnaces and accessories at the plaintiff's works are concerned, I will describe the method pursued in determining what would be necessary to be done to put them in the condition that they were when new. I made a very complete examination of the boilers and furnaces, and I saw what was not in the condition that it was [fol. 820] when *when* the part or parts were new. The firebrick lining of the furnaces I took no account of because that is regularly replaced, it is practically consumable material, almost like coal, and it is replaced with great regularity. But the settings, anything that was not in the condition in which it was when new, I figured on putting in condition; the boilers themselves, anything that was not in the condition in which it was when new, I figured on putting in that condition. My conclusion with reference to this condition when new is not necessarily based upon efficient maintenance, a piece might not be maintained. If any piece of apparatus had not been maintained, it would cost a great deal more to put it in the condition in which it was when new, if it can be done, than it would if it had been maintained. The condition of maintenance relates to the necessary expenditure to restore it. Most of the companies maintain equipment of this character substantially, not exactly, in that condition, after the slightest accident to a door, for instance, a little crack in a door frame, it would not be in the condition in which it was when new, but the company would not put a new frame on because there would not be any reason for it, the cracked frame is really about as good; but in making my survey, if there were a cracked frame, I would put on a new one, and yet the company would not put on a new one because there is no reason for it. I do not know of any company that maintains its plant in 100 per cent. condition all the time. There isn't any [fol. 821] constant margin. There are variations during different times of the year. For instance, a gas holder will be painted about every two years, perhaps. As soon as it is painted, assuming that everything else there was in good condition, which it usually is, it is in a 100 per cent condition. Now that margin goes down, if you please, by

the extent of the painting between the condition when new or the amount to put it back in the condition of new and then increases up to the time when you come to paint it again, and when you paint it again it is then in the condition when new. It is not constant, and it is not the same any two consecutive days. I do not call the failure to paint a holder to-morrow after it has been painted today, lack of maintenance. I consider it very good maintenance. It would be very unwise to paint it every day, and it is not lack of maintenance, it is good maintenance.

Q. I did not mean to speak about the holder alone. I meant suppose that you painted the holder today, still there would be some part of the plant to which attention would have to be given immediately on the morrow, and some other part of the plant that would require attention the succeeding day and so on. In other words, you cannot reach that 100 per cent. maintenance at any time?

A. But I call that 100 per cent. maintenance, to repair every part when it is economically wise to do it. I call that 100 per cent. maintenance.

Q. Is it humanly possible to ever reach 100 per cent. [fol. 822] maintenance in any plant?

A. I think it is usually done. I think plants are usually kept in practically 100 per cent maintenance. Of course I really do not think we are talking about the same thing. I do not think you quite understand what I mean.

I may understand you and I may not. Let me make an explanation, to be sure that I do. I do not mean to say by that that you would not have to spend money to put individual items in the condition in which they were when new, but I think there may be some misunderstanding between us as to the use of the work 100 per cent. maintenance. By 100 per cent. maintenance I do not mean the money has been spent on it to put it in the condition it was when new. I mean by 100 per cent. maintenance that the plant is kept in the most efficient operating condition, and in addition to that if you want to bring it into the condition in which it was when new, you would have to spend some additional money which is not warranted at the present time, like the items that I have listed up here. In Exhibit 40, those are items which it would not be wise as

a rule to expend at the present time, but still would be necessary to put the property in the condition in which it was when new.

[fol. 823] Q. Then, Colonel, is it possible to ever get a plant that has been for some years in existence in a condition in which it was when new?

A. This plant is better than it was when new this minute; it is better than it was.

Q. I do not think that is responsive, Colonel.

A. Well, it is not in the same condition. It would never get back to as poor a condition as it was when new, because it has been thoroughly worked out and organized and it is always better than when new if properly maintained.

Q. You are talking about the administration of the plant, are you not?

A. The changes and additions and modifications due to the working out of the plant, organization of the material, not the organization of the force, but the organization of the material in the plant makes it a better plant than it would be to build it new and then have to go in and make such minor changes as always become necessary in every new construction.

What I state has nothing to do whatsoever with current repairs. It is a question of what the condition is in this plant as compared to a strictly new plant. I say it is better. My answer when I say it is better means that the material has been organized, minor changes have been made. No [fol. 824] new plant can be built from drawings, and when you go in to operate it be found to be just right. There are always some minor changes here and there and somewhere else, and there is increased economy due to these minor changes which makes the plant after it has been running for a year or two years or several years better than a strictly new plant. My answer means, to express it in the vernacular, fitting the plant for its job. Fitting the plant for its job has nothing to do with what we call current repairs, that is, in endeavoring to reach a point where the plant is fitted for its job, it involves the use or loss of manufacturing material and of labor. In other words, a newer plant will usually use more material and more labor to do the same work than a plant that has been running for some

years and properly organized. I mean where the plant is organized, not the organization; minor changes to enable things to be done easier, which only develops through experience and it is very difficult to develop them on a drafting board.

Q. Then, Colonel, I am not to take literally what you say here when you say that the items contained in Exhibit 40 will bring about a condition in the plant known as in as good condition as the separate items of property were when new. I am not to take that literally, am I?

A. Where is that?

Q. It appears on the outside sheet here.

A. I do not think it does.

Q. Well, you say "Expenditures necessary to put the 59th Street Works and the 65th Street Station of the Kings [fol. 825] County Lighting Company in the condition in which they were when new."

A. There is no separate items there.

Q. Well, I am not insinuating that the separate items appear on this outside sheet.

A. Well, you said so.

Q. I am insinuating that the outside sheet is a label for the separate items inside.

A. The separate items of expenditure, yes.

So that the separate items of expenditure having been spent, and the repairs made as I have suggested, the plant would be in better condition so far as the fitting the plant for its job is concerned.

The organization of personnel, that, of course, is a great expense in getting a plant in efficient operation, but that has nothing to do with what I was talking about awhile ago when I was speaking of the organization of the material. But that is an expensive thing as an element of cost of a when new. I mean the state of maintenance of the sepagoing plant. It is possible to bring a plant in so far as repairs are concerned into a condition equal to what it was rate items of property are equal to what they were when new, so far as ability to serve the plaintiff and its consumers is concerned.

[fol. 826] Q. Then tell us what it is necesary to do in order to make the plant in as good condition and keep it in as good condition as it was when new?

A. This plant at the moment is in better condition than it was when new, and when the expenditures shown in Exhibit 40 are made, each part of the property will be in the condition in which it was when new, and to keep it in that condition, you will just have to keep on making expenditures and replacing the wearing parts, that is all.

That keeping it in as good condition as it was when new is a matter of paint and replacing moving parts. You have to have a matter of administration to replace the parts, but all the administration in the world would not fix it up without the paint and the parts. The matter of fact is that it requires a very close and continuous supervision of the plant at all times and close scrutiny of every part of the plant in order to maintain it in that state known as a 100 per cent maintenance. If that supervision is not competent somewhere along the line then the plant cannot be and is not maintained in the condition in which it was when new. [fol. 827] Sometimes the overhead supervision may not be very good and the men lower down the line keep the property up, but it has to have it somewhere. It is possible to get so efficient an administration of the plant as to have 100 per cent maintenance prevailing at all times. I think that is in this case in this plant, right here now. I think every dollar has been spent on it that should be spent on it. I admit, though, that there might be a broken door here and a broken pipe there, but does not increase in any way the cost of gas and does not affect in any way the efficiency of the plant, and when these expenditures are made the plant will be in the condition in which it was when new.

Mr. Hyatt: I am trying to make the point, your Honor, through the Colonel here that it is not possible to reach that amount of efficiency in the administration of any plant as to keep it in the condition in which it was when new. I presume that is apparent to everybody.

The Witness: That is not efficiency. It is very inefficient. And to try to keep a piece of property in the condition all

the time that it was when new, nothing could be more extravagant.

Q. I am glad to hear you say that, I have reached all I want to -now in that connection. Colonel, you estimated, did you not, that the holders of the 55th Street Works could be restored to a condition equal to new by an expenditure on June 1st, 1923, of $2,232, and that at the 65th Street Station by an expenditure of $6,294, which would make these holders as good as new. Now, computing these two [fol. 828] sums I reach a figure of $8,526.

A. Yes, that is right.

Q. The holder at 55th Street and the holder at 65th Street might cost, according to your estimate, $8,526.

A. Yes, I answered yes.

I don't know that in November, 1923, the repairs to those holders of the plaintiff cost according to the books of the plaintiff, $5,315.87. If that were true, that would not in the slightest degree affect my judgment as to what it was necessary to spend on those holders in order to put them in the condition in which they were when new.

I did not examine the books of the plaintiff to ascertain that from January 1, 1923, to January 31, 1924, there was expended for repairs to those holders the sum of $7,072.62. I did not ascertain also that in February, 1924, the company had authorized for repairs to holders $917.40, neither am I aware that in addition to the actual expenditures counsel stated, as shown on the books, to about the middle of February 1924, the company had authorized for repairs to holders, but had not yet expended, the sum of $8,817.25.

Since I made up my estimate of repairs necessary to the holders, I have not endeavored to check my estimate by reference to the books. If in fact the books show that there has actually been expended or authorized to be expended the sum of $14,807.27 since June 1, 1923, to the end of February, 1924, as to whether I would still say that my estimate of $8,526 for estimated cost to restore holders to a condition equal to new, was reasonable, depends upon how much [fol. 829] damage, if any, has been done since June 1st. I don't know anything about this stuff that counsel is reading in. I don't know what has happened to those holders since June 1st.

As of June 1, 1923, I estimated as shown on my estimate, that by an expenditure of $977.50 the water gas sets and accessories could be put into a service condition equal to new—that is, the sum of $977.50. If I were assured, that the plaintiff spent in June 1923, a sum for repairs to water gas sets and accessories about $7 less than you estimated was necessary to put the water gas sets and accessories into a condition equal to new, I would probably think that I had over-estimated it, because a lot of that expenditure is the replacement of checker bricks and the ordinary use of what is almost a consumable material all the time. The set has to be overhauled after about a thousand hours of operation, which goes into repairs. Assuming that the books actually show such to be the fact, I would still say that as of June 1, 1923, $977.50 was a fair and reasonable estimate of the amount required to be expended upon this apparatus to make it equal to new.

Q. Now, in your estimate, Colonel, you have stated that by expending $10,050.56 at the 55th Street Works, and $6,507.36 at the 65th Street Works, as of June 1, 1923, these works and the holder stations could have been put into a condition equal to new. I don't want you to assume that these figures I have stated here, Colonel, are correctly stated, but they are correct so far as my computation goes; but would the fact that the plaintiff spent from [fol. 830] June 1, 1923, to January 31, 1924, the sum of $39,577.92 for repairs to the works and holder stations would that in any way affect your conclusions?

A. Does that include buildings?

Q. Well, would it affect your conclusion in any way, Colonel?

A. Well, if I knew what it covers——

Q. Well, all right. I have checked the same figures that you have set out here in your estimate for repairs to the holder stations.

A. My own are for repairs to equipment in the station, they are not repairs to the station as such. They are equipment in the station. It does not include any buildings or general structures.

It is true that if I visited this plant sometime in 1923 or at some time in 1924, I would find evidence of the neces-

sity for making repairs to restore the property to 100 per cent, or put it in the condition in which it was when new. It might be very little, but I probably would find something. There is always a sum necessary upon inspection to spend for repairs in order to make the plant in the condition as it was when new. Not in as good condition as when new, but in the condition. It is my theory that even if the coal handling plant is to be discarded within a month, that said plant is equal to a new plant up to the very minute in which it is retired from service, that is, if it is properly maintained and if it is in the condition when new and doing the work [fol. 831] it was then doing. It is absolutely possible to reach that state known as "properly maintained," in the sense in which I have just used those terms. This plant is in that state now. Our company has not been invited to submit estimates for any new coal handling equipment from the dock to the receiving end of the belt conveyor in the yard by the plaintiff.

If a new coal handling equipment is put in to take the coal or coke from the scows to the belt conveyor, whether there will be any reduction in the cost of making the gas, due to the greater efficiency in unloading and transporting the fuel, depends a great deal upon the plant. You will have to ask the engineer about that, I should say. There are lots of plants, and some might be more expensive and some might be less expensive. Supposing they put in a new belt conveyor now down there in the 55th Street Works, whether it would make the operation of the plant more efficient, depends upon the plant they put in. I don't know that they are going to put in a new one. If they put in a new coal handling equipment—whether in my opinion it would reduce the cost of manufacturing and distributing gas, depends entirely upon the coal handling equipment they would put in, it would and it would not, depending upon the equipment. It is physically possible to put in a plant which would reduce the cost of making the gas, I believe, but the interest on such a plant might be more than the increased economy of operation. It might or it might not; it is a problem that I have not studied. You cannot sit here and [fol. 832] work out a complicated problem like that. Assuming that by putting in the new apparatus in any part of the plant, a reduction in the cost of manufacturing the gas would

ensue, the new consumer should not pay for the cost of abandoning the old apparatus. It should be paid for by the economies of operation.

Q. Assuming that a coal gas plant was put into this plant and that it did not operate successfully, would you charge against the existing consumers the cost of abandoning that coal gas plant?

Mr. Moran: I object to that.

The Master: Objection sustained.

Mr. Hyatt: This gentleman is an expert.

Mr. Moran: All right, we agree to that.

Mr. Hyatt: It all goes to the question of having an efficient plant, and he says it is a highly efficient plant, that is the whole basis of his estimate here.

The Master: What is the next question, Mr. Hyatt?

Mr. Hyatt: Did your Honor sustain the objection?

The Master: Yes, I did.

Mr. Hyatt: I will take an exception.

There is no coal gas plant at the 55th Street works at the present time. The purifiers there are in service, which were used when they had a coal gas plant there. I think some of the coal trestle may extend back to the time when they had a coal gas plant there, I am not sure. You might call it part of a coal gas plant. It is part of any gas plant.

[fol. 833] Q. Well, you are aware that the predecessor company made coal gas for a long period of time?

A. Well, you might call it coal gas or you might call it water gas; it is meaningless to try to a distinction. It is the same machinery, equally applicable to both types, and used in both types of plant.

Q. Do you know how long the plaintiff manufactured gas, or the predecessor of the plaintiff manufactured gas by the coal gas method?

A. No, I don't know how many years, I don't remember. I don't know that I ever knew just the date when that change was made.

I do not know that the present fuel storage hoppers were designed to operate in conjunction with a coal gas plant, but the storing of coal is the storing of coal, whether it is to make coal gas or water gas. It is merely coal storage, I

don't care what it is designed for, so long as it works efficiently. I don't remember any belt conveyors installed in connection with the coal gas plant. In fact, I think the belt conveyors were installed after the coal gas plants. I think the coal gas plant was installed before there were any belt conveyors. I put the first belt conveyor in a gas plant and I think that was after this plant was built.

Q. How would it be necessary to handle the coal, in the case of manufacturing gas by the water gas method?

Mr. Moran: I object to that.

[fol. 834] The Master: Objection overruled.

The Witness: I really don't know what you mean. You can handle coal any way you want to. There is no way in which it is necessary to handle coal. You can handle it any way you please. It may be more economical to handle it in some ways than others, but there is no one way in which it is necessary.

I have not made an estimate of the cost to put into condition equal to new, the 50,000 meters that are now in the plaintiff's district. I did not make any estimate of the cost of putting the meters in a state of repair. They are regularly turned over and brought in and practically kept up in a condition substantially as good as new. They are regularly overhauled. I made no inspection of those meters. I know they are regularly overhauled and kept in a condition substantially as good as new, because the Public Service Commission provides that they must be and, in order to keep the unaccounted for as low as it is, I know that they are, and they must be in good condition.

The Public Service Commission regulations would justify my conclusion, that they were kept in that condition, taken in conjunction with the operating reports of the company, the amount that they spend on the meters would indicate that they are kept in a condition equal to new.

In my estimate of the reproduction cost of the main sys-[fol. 835] tem and the service system of the plaintiff, I took the figures provided by Mr. Duncan. I did not check his figures. The price of the pipe, the price per ton I did check, and the unit costs—I mean the weights, I did not check. He stated it was 3 per cent over and above the standard weights, what he found he had to buy in order to

lay the pipe. That is his experience, and is not a thing that I could check.

The exhibit shows that I assumed no responsibility for the figures he gave, although I am satisfied that they are all right. I made a survey of the street mains and specials of the company to see in what condition they were; some years ago. I made a very careful inspection of the mains and services of this company. I have examined many pipes in and around this section.

In June, 1923, if there was expended for repairs to those mains the sum of $2,288.75, I would still say that the mains on June 1st, 1923, were in as good condition as when new. You will find those expenditures right along. That expenditure of money during that one month would indicate that a reproduction cost new value of those mains should be given. They average about that, a little more than that expenditure every month. They are always digging and interfering with this company's mains in the street, and they always make an expenditure in connection with this part of the business, it is part of the routine of the company. So, that, notwithstanding the fact that a sum such as was mentioned a moment ago, is spent per month on the repairs [fol. 836] to the mains of the plaintiff's main system, I would say that a reproduction cost new value should be given to those mains. If the mains were put in there yesterday, you would start spending money on them today, because of outside interference. You have got to keep up to the minute all the time in overcoming the interferences with your structures due to other people digging in the street; that is routine. I would swear, however, that the plaintiff kept substantially up to the minute in the sense which I have just stated, all the time. I judge so from my contact with the organization and from a study of the reports of the company, the exhibits in this case and other reports I have seen at other time.

Supposing that during the first half of February 1923, there was a sum spent of $2,300 for repairing those mains. I would still say that a reproduction cost new should be given to those when determining the investment of this company engaged in the service of its consumers. That the mains system is worth what it has been estimated to be worth.

I don't know that a steel main, a wrought iron main or a cast iron main has a longer life than the other. There is no particular limit. They will all last right along. I have never known of a main to be taken up for anything except inadequacy, a wrought iron main, a cast iron main or a steel main. They all last indefinitely. Assuming that in October, 1923, plaintiff company expended for repairs to services the sum of $3,011.80, that fact would not indicate that on June 1st, 1923, the services of the plaintiff were in perfect condition, but, it would not indicate that they were not, [fol. 837] either. And it would not indicate in the slightest degree that the plaintiff should not be given a value on these services of reproduction cost new.

Assuming that if the books of the plaintiff show that from June 1st, 1923, to January 31st, 1924, the plaintiff expended $12,327.41 for repairs to services, I would still say that on June 1st, these services were in perfect condition. That would not affect it in the slightest degree, but I don't think the books show that. The books show only the amount spsent in the whole year. Assuming that was the cost of repairs to services, the sum of $3,011.80—I would still say that the plaintiff should be given a value of the reproduction cost new on those services, for the purpose of this case, in order to maintain them in a condition as good as new. Most of these repairs are practically replacements, replacing a small one with a large one, because of inadequacy. I know that of my own knowledge, from an actual study of this plaintiff's plant and from discussion with the officers of the company.

Q. If the cost of the repairs to the mains, meters or services of the plaintiff's system were excessive during any year, would that in any way prevent, in a case of this kind, Colonel, the plaintiff from having a value given to these mains, meters and services equal to new for the purpose of determining what was its investment in this class of property?

A. Well, that might depend upon what caused them to be excessive. During the construction of the subways repairs were excessive right along, and yet I would not assume that [fol. 838] the Master or the Court would penalize the company by saying that its plant was valueless or reducing the value of the plant because it was damaged by other struc-

tures. Most of those repairs are caused by damage from outside excavation or else, if it is in the case of the services it is to a considerable extent due to inadequacy.

The question of the maintenance of mains I take from my own knowledge, as prevails in all plants. The question of the maintenance of services is also general, and I have also talked to the officers of this company about that item. Meters are just overhauled in the ordinary course of events. The repairs are very normal. They are regularly brought in and overhauled and the repairs are normal for a company that turns its meters over every five or six years. There is no point in the cost of these repairs with respect to these items of property beyond which the plaintiff would not be entitled to earn a return on the value of their investment, therein, equal to the cost of the thing reproduced.

I rather feel that it is the other way, that if the repairs ran too low, then they might not be entitled to a return; but when the expenditures indicate a high state of maintenance, I should say that is every reason in the world to indicate that they are entitled to earn a return. If the repairs fell off to almost nothing, I should say that it would indicate that the property was being allowed to run down. I don't think you could judge entirely by that point on the other side, beyond which, if high, it would not be well to accord to the plaintiff a value equal to reproduction cost new. If it ran too high, I should then want to investigate and find [fol. 839] out the cause. If it came from the breaking of the sewer system, as we had in Baltimore, or from the subway system, as you have here, then I don't think the company ought to be penalized for it, but all conditions must be carefully studied and conclusions based on the actual conditions. In Exhibit No. 39 for the value of tools and implements reproduced as shown by the books of the company, right on the summary page is the figure $4,715. I got that directly from the books of the company. I made no particular investigation of the condition of the tools, their physical condition except to know that the work was going on, that they were doing the work. I haven't any estimate here of the repairs necessary to be done to those tools to make them in a condition equal to new. I don't think they need any repairs to make them worth more than they are listed at here. I made no effort to ascertain what

the actual cost of keeping those tools in a state of repair was, from June 1st, 1923 to January 31st, 1924. Assuming that the cost as shown by the books of the Company was $2,572, that would not in the slightest way cause me to revise my judgment as to the value of these tools. It hasn't anything to do with those items. The tools and implements that they buy, under the system of accounts, are charged to repairs, the new ones that they buy and this balance does not change materially. The very system of accounts of the [fol. 840] Public Service Commission takes care of that. The small hand tools are charged to operating account, not to capital account, so it is not a repair. The first installation is capital account in my estimate here. Subsequently they are charged to operations, and this also includes machine tools, which are capitalization. This includes machine tools in the plant. In giving my estimate of the cost of the tools, I simply give the first investment estimate, what is shown by the books and in reaching that, I assume it is the duty of the consumer to pay enough to maintain the investment in all classes of property. That is included in all cases. I would concede that it was perfectly proper in all classes of property to give the duty to the consumers to maintain the investment intact. Assuming for the purposes of illustration, that here is a $20,000 piece of property. So far as the consumers duty is concerned, I would put a greater obligation upon him than to maintain that item of property in such a state that he would not be required to pay anything beyond a return on its original cost. I would include the additional factors of compelling him to pay taxes, the maintenance, a return on the value of that property, whatever that value may be. I don't care what it costs, it doesn't make the slightest difference what its original cost was, the question is, what is its value? If during fifty years he puts in $50,000 to keep it in a state of [fol. 841] repairs; he has maintained the investment intact. I would compel him to pay besides that $50,000 a return on the value of the property. There is no magic about a dollar. it is merely so much gold, and that has fallen in value. If you spend $50,000 50 years ago, that is practically worth about $150,000 of the present dollars. It is true that the original $50,000 only has a relative value with reference to some preceding period. A gold dollar is not standard. It

is a mere measure of value, but you must give me the time if you want to get what its real value was in commodities.

In the last one hundred years, I think a gold dollar has varied more from 1897 to date than it did certainly back to 1840 in purchasing power. It didn't begin to vary very rapidly until 1861 when the war began. After we got in the war and went off the gold basis, then prices went way up on that currency basis. Unfortunately my table only goes back to 1840. I cannot carry it beyond 1840. That is the limit of the Bureau of Labor statistics and records, and I cannot go beyond that, but I can say that it dropped in the 40's about 1841 to 1844 there was a drop in the index number, and it was fairly horizontal from 1844 to 1861. I don't know whether the discovery of gold in California had any effect on it at all to amount to anything. Its rapid rise starts with the Civil War. I don't know how much 1849 affected it. There was a rise in prices about 12 or 14 per [fol. 842] cent, between 1850 and 1855 or 1857. Then prices went down practically to what they had been before for several years, and than they shot up quickly in 1861. I don't remember the exact date this plant of the plaintiff came into actual serviceable condition. I think it was during the period of low prices in the late 90's. And of course the plant has been developed piece meal ever since. I inspected the belt conveyor down there in the plaintiff's plant at 55th Street and First Avenue. Its composition is rubber. That is, the conveyor itself is rubber. It is carried on cast iron pulleys, which in turn are carried on steel axles. I forget at the moment whether they are in turn supported on steel or whether they are supported on wood stringers; I have forgotten, but the belt itself is rubber. There is no special limit to the duration of life that I know of, but of course it will wear out eventually and it will be replaced when it is worn out. I have know- them to run for years, but on the other hand I have known them to be worn out and all torn to pieces in one year. It is a question of how they are handled. There are a great many wearing parts in any plant of that kind, and that is the reason that money is regularly spent in any plant to replace the parts that wear out.

On page 84 of my Exhibit No. 39 showing the cost of meter installations, the figure is $264,855.50. It is correct

to say that that is at the rate of $6.50 per meter. The fac-
[fol. 843] tors included in that installation are the measuring up of the location for the meter, the cutting of the pipe, the delivery of the pipe, fittings and meters, the connecting up from the service through to the meter and from the meter to the base risers, and the installation of the meter, the examining of the house to see that there is no cock or range open before the setting of the meter, and the installation of the meter, and then the examination afterwards to see that the gas is not leaking, and, if so, the making of a temporary arrangement if possible to stop the leak, or if it can not be done, to disconnect the meter until the leak is stopped. I assigned no specific figure in each factor. The source of my information in fixing upon the figure of $6.50 was an average of the cost during several years of this company and the Brooklyn Union Gas Company. This is an average of the actual cost. I included the Brooklyn Union Gas Company's figure because I just wanted a by-check. I did not take any arithmetical average of the five years cost to the two companies in arriving at my estimate. After I had ascertained that the books of the plaintiff showed that in 1920 it cost $14.44 to set a meter. I did not make any particular use of that figure taken alone. I do remember that the Kings County Lighting Company set meters in the year 1921 and charged the cost to its consumers from and after May 1st, 1921. I know it is set forth; it is set forth on page 64 of Exhibit 39 that the charges are
[fol. 844] only previous to that date. I don't know that the books of the plaintiff then show that on the cost of installing meters in 1921 part of the cost was charged to the consumers. I have heard that was the fact that in 1923 all meters were actually set by the plaintiff company for the consumers. I do not know against whom the charge was made for setting meters during the year 1923. I did not endeavor to ascertain what the books showed as to the average cost of installing meters by the plaintiff in 1923. I assume it would be possible to ascertain from the books the average cost of installing meters in 1923. These figures were all made up before the end of 1923. I did not use any part of the figures of 1923 as to the cost of setting meters prior to June 1st, 1923 as shown by the books of the plaintiff. That particular schedule says it is

only the cost of the meters that were installed as of May 1st, 1921. It clearly shows it does not include the cost of installing meters in 1923.

MILLER

Redirect:

I do not actually know whether the company installed any meters at all in 1923. I don't know how they get the business done.

[fol. 845] Kings County Lighting Company

Brooklyn, N. Y., April 10, 1924.

EDWARD F. HAYES

Direct:

I am a vice president of Blair & Company, Incorporated. That company is engaged primarily in the business of buying and selling investment securities, with offices in New York and a great many other cities. I can give a list of them. It is scattered pretty well throughout the country. We endeavor to have them located in the large investment centers. I would say we have representatives and offices in at least fifteen cities in the United States. We also have foreign connections. We maintain an office in London. I would say the company is what is called an old house. The Blair name, I would say, has been before the investment public for fifty years, at least. I have been with the company or one of its immediate predecessors for eighteen years. In 1920 Blair & Company consolidated with another house. I was with the other house prior to that time. My individual line is more particularly on the buying side of securities, buying for distribution among an investment clientele. I would not say that we specialize in anything. We handle almost anything that is in the line of investment securities, railroad securities, public utilities, gas companies industrials, bank securities, corporation bonds of all kinds and government securities, investment securities.

Within the last two years we have handled bonds of the Kings County Lighting Company and also acted as under-

[fol. 846] writer for two or three issues of Brooklyn Edison Company's stock, right here in Brooklyn. We have handled an issue of the bonds of the Kings County Lighting Company. As I remember it it was about the latter part of 1921 or the early part of 1922, along in there. It was in mid-winter, 1921-'22. They were known as the First and Refunding mortgage bonds bearing interest at the rate of 6½ per cent and there was approximately two million eight hundred and some odd thousand dollars of it. We bought the bonds outright and distributed and sold them to investors. They are in the market now, listed on the Stock Exchange; we deal in them all the time; we buy and sell them now. I was familiar with the financial structure of the company and we purchased the securities with the idea of turning them over and selling them and making a profit on the transaction. We do not buy them for ultimate investment by our own house. Of course we have to assume the risk always, but we always buy with the idea of selling. As to the price, we must absolutely be sure, in the first instance, as well as anyone can be sure, that we have a sound investment. The price varies always with the degree of security of any investment, also plus the conditions in the investment market at the time, depending upon what capital can receive in various lines of investment. Generally, in investigating a security before making a purchase we would want the history of the earnings of the company, of the business, over a period of years; we would also want a financial condition, we would want a statement of the [fol. 847] physical condition of the property, what its property consists of, we would also want a statement as to the value of the property, and we would want statistics as to the growth of the business, number of consumers and meters and statistics of that character. In a general way I think that about covers it. Yes, we would want a fairly detailed statement of earnings so that we could analyze, really, what the trend and the course of earnings have been, and whether there were any unusual factors entering into that statement, for the purpose of determining the average general earning power of the property. Take a corporation that we were going to furnish all the capital or market securities to cover the whole thing, the whole investment in it, I would say in a general way that a public utility of that type we

would expect it to earn at least eight per cent upon the value of the property at the present time.

Q. Is it a particular situation that exists now, or has it existed, say, during 1923 and before?

Mr. Ward: If the Master please, I object to all this testimony on the rate of return as irrelevant and immaterial. The courts have said in a great many cases that the courts are not rate-making bodies. The only question presented here is the rate fixed by this statute confiscatory, and that is a question—the rate of return going to that question is a question for the Master and the Court to decide, and not a question for expert testimony.

Mr. Hyatt: Your Honor, at the close of this testimony [fol. 848] I am going to move to strike it all out, just to raise the question. I am with Mr. Ward on this point generally, that the question before the Court is what rate of return is so low as to be confiscatory to this company. That is the only question of law here. I assume your Honor will deny that motion, and just make it to rais certain legal points. I am going to make it at the close of his direct testimony.

The Master: Objection overruled.

Mr. Ward: Exception.

Mr. Hyatt: Exception.

Mr. Ward: It is understood that objection goes to the whole line of testimony?

The Master: Yes.

Mr. Hyatt: I only raise the legal question for the purpose of the record here.

The Master: Yes.

A. Yes, I would say for the last two or three years that that statement would be true.

Q. That is, at least eight per cent?

A. Yes.

I mean to say that it is necessary that it earn that in order to get capital, that is really the basis on which capital is attracted to any enterprise, reallyq what the enterprise as a whole will earn, because although you might be able to conceivably float a bond issue for 6 per cent of any given period [fol. 849] of time, that would only suffice for one particular period. The investor and the banker in looking at a pro-

position want to feel as certain as he can that the rate of return, that the earning power if you care to measure it and the rate of return on the value of the property will always be such so that you can attract capital to it and issue, not all bonds, because the property would not stand to be bonded right up to the full value—you must also have a basis for selling preferred stock and you must also have a basis for the sale of common stock. The only way you can do that is to have sufficient earning power in the enterprise as a whole so as to be able to sell the preferred stock and able to sell the common stock as the case may be when you think you should do so.

When a company like the Kings County Lighting Company or any other company sell bonds, it is always competing in the money market with all kinds of enterprises which are coming into the money market to obtain capital, and not only such enterprises, but industrials of all kinds and railroad companies, and you also have in the last few years, especially in the last five years, you have most of the foreign governments of the world coming into the American money market looking for capital, and the return which you can receive on various other classes of securities which are offered, naturally has a very important bearing on what a public utility must pay. It is my opinion that unless this company would show earnings over all on the value of its [fol. 850] property of at least 8 per cent, it would be at a disadvantage so far as the money market is concerned. I would say that the Kings County Lighting Company would be at a disadvantage, to such an extent that capital would not care to invest in a company like that that would not show at least 8 per cent return on the value of the property, because they can go to various other forms of enterprises where they can get that return as a whole. These bonds we sold for the Kings County Lighting Company bore 6½ per cent interest. They were sold at about 6¾ per cent by our house at a price below par. The company got a still lower price naturally. I don't remember the figures now. In a general way I have known of some 7 per cent preferred stock which the company has sold recently, marketed by the company direct to its customers and employees. I understood it was offered to the customers at par and taken. It pays dividends at the rate of 7 per cent.

It is entirely consistent with my statement that 8 per cent is a necessary rate of return, because it is a 7 per cent return on a type of investment that is not as good as the bond. It comes after the bond, and therefore, has to yield the investor a larger rate of return. The investor in this is getting 7 per cent. This 7 per cent preferred stock is entirely consistent with the statement that an 8 per cent return is neces- [fol. 851] sary because in order to market a 7 per cent preferred stock, it must earn more than 7 per cent which has to be available for the preferred stock. There must be a margin over the 7 per cent dividend requirement, as a protection to the investor. If I may give an instance, I will say that you pay on the bonds, plus what you pay on the preferred stock, plus what you consider a reasonable return on the common stock, and I would say it comes out at about 8 per cent on the entire investment, in the main. I would not say that all a company of this kind earns should be paid out in dividends.

Mr. Ward: I object to that question as immaterial and irrelevant.

The Master: Objection overruled.

Mr. Ward: Exception.

The Witness: Oh, no, I should say it decidedly should not be all paid out.

When I am speaking about 8 per cent, I am speaking about the property on which the company is entitled to earn. It is either being paid out in dividends or staying in the business, being accumulated in the business for the benefit of the stockholders. Naturally some of it ought to be accumulated in the business. It is absolutely for the chief benefit of the company when it comes to financing. If a company does not earn what is adequate, I should say that it would have a very decided effect upon its securities in the [fol. 852] market. The reaction among investors would be that they do not care to stay in a company like that, they would sell their bonds and stock. The reaction of the banker is that he is sorry, but he doesn't think that he can recommend those securities to his client. Capital is always very sensitive to development of that kind, it is only natural and proper that it should be. If it shows any developments that would affect the property, naturally it appears fearful

and more disposed to sell it. The tendency is to drive it into other forms of investment. The more securities that are offered without a ready buyer, naturally the tendency would be to depress the securities. In my work I have to keep in touch with the market conditions prevailing in the money market all the time. I never engage in any operations without knowing precisely what those conditions are. I think I am familiar with the conditions of the money market now, and have been during the year 1923.

HAYES

Cross:

I don't want to answer the question of what the discount off the face value of the bonds was which we purchased, offhand, but I can easily get that figure for you. My recollection is that we paid about 93, but I am not sure. The bonds have a par value at the rate of $100, at that rate, but the bonds are $1,000 bonds. The bondholder is a creditor of the company in the full sense of the term. And the stockholder is the owner. As a stockholder, he is subject to all [fol. 853] the risks of the business, I would say. The bondholder is secured ordinarily by a mortgage on the property of the company that issues the bond. And of course if either the interest or the principal is not paid on the due date, the right of foreclosure obtains ordinarily.

There are a large number of financial houses in the City of New York that are engaged in the same line of business that our house is engaged in, such as J. Pierpont Morgan & Company; Kissel, Kinnicut & Company and—and a number of other houses. It is not necessary that the plaintiff in marketing its securities would have to go to our house. They could shop around among all these financial houses. Presumably they could obtain some price, but I don't know what price they would get. They have that advantage. If the company feels that way about it, I would say they have a perfect right to go wherever they please. And I suppose they are entitled to get the best price they can. I would not say offhand that the plaintiff might have gotten a better price than 92½ or 93 or a better price than our company gave them. I think we gave them the very best price. I doubt if they could have gotten any better price at that time. That is my opinion It is a matter of record that the bond

market has been fairly active during the past year. There is always a money market, but what is meant by pretty good—well, it depends upon other factors. If you are a lender and get a large rate, then the money market is very [fol. 854] satisfactory. At the minute, what I call "Call money" is fairly plentiful. The investment market is a little more than that. A man may have $10,000 in his pocket—any number of men may have $10,000 in their pocket, but that is not the only thing that controls the investment market. He may decide to hold off, he may think prices are going in certain directions. One man's judgment does not necessarily control fifty men who have each got $10,000 to invest. When we buy an issue of bonds like the Kings County Lighting Company bonds, it is not the judgment of one man. It is the judgment of a large organization with representatives in various cities; the judgment of an organization that has been in business for a great many years, and I think that we feel that we know as much about that sort of thing as any other investment house in the city. We know that the only way we can develop and keep a business is to pay a good price to the corporation that wants to sell the bonds, and also make a good reasonable price in accordance with that, with the investor who wants to buy the bonds, and at the same time protect the investors who are behind us. We have those two things to accomplish.

The figure of 8 per cent which I gave in my testimony pertains to what would in my opinion have to be the rate at the present time or for the last two or three years. If the volume of money available for investment increases substantially—I don't know that the volume of money has a great deal to do with it. It would naturally have some- [fol. 855] thing to do with it, but it is the competition largely with other lines of enterprise. The amount of money available for investment naturally has a great deal to do with the trend of the money market; as to all forms of investment seeking corporations, their chances of their getting it increase as the volume of money increases, other things being equal.

I am familiar with this periodical called the Commercial and Financial Chronicle. As to what the offerings of public utility bonds have been for the last two weeks as reported

in that paper, my memory does not serve me so accurately as that, but in so far as my memory does serve me the offerings have varied from 6 per cent, around 6 per cent, up above 6 per cent, and some offerings I am sure have been 7 per cent. In this morning's paper I noticed preferred stock at 7½ per cent. I think it was the Standard Gas & Electric as I remember. I didn't read it, I just saw it, I didn't get a chance to read it. I am referring more particularly to advertisements of investment offerings which are I would say very reliable, that is, I would be justified in dealing with the advertisements for what they prima facie represent. They are all responsible houses. In the last month I don't remember anything at 5 per cent of public utility bonds. There have been some as I said a few minutes ago around 6, 7 and 7½. There has been a fair demand for public utility stocks, a fair volume of offering. I don't think I would undertake to fix a rate of return [fol. 856] for the future over a given period of years.

The company is entitled to an 8 per cent return on the value of the property. I am not necessarily more interested in the return that the earnings of the company will pay on its capital, meaning the bonds and stocks. Take bonds, for instance, if our company is issuing an issue of bonds and sending out their prospectus trying to get investors to take it, we feature the amount of earnings, the relation between the earnings and the interest on our bonds. That is a very important piece of information for the investor to know, and naturally he is given that information. That is the thing that we pass along to the investor in precisely the way Counsel states, but it is very important for the banker and for the judicious investor to know, that his bonds are backed up by property which is entitled to earn a reasonable rate of return, to make his bonds safe, to enable that company to finance in future by other junior securities. An investor wants to know that the value of the property is above the value of the bonds. He is much interested in *is* the rate of return in comparison with the outstanding bonds, but that is only another way of expressing what I have been stating that the property must return a reasonable return in order to show that margin. The proportion of the bonds to the value of the property makes a big difference. The investor don't want to foreclose on his property and take

over the property, that is the last thing he wants to do, he doesn't know anything about running a public utility or any- [fol. 857] thing else, but what he wants is to get a property on which the company will be allowed to earn a reasonable return so that his bond interest will be protected always with a margin. He is interested in the payment of the interest on his bonds and always with a margin to spare, and also because the investing public has been educated sufficiently now to know that a public utility company does not stand still, it is growing all the time, and he knows that that company must always be in a position where it can attract new capital when it needs it. In 1917 and along during that period when prices were increased and cost of construction, the reproduction cost, the value of a utility increased tremendously; that did not mean that investors demanded a larger return on their investment, if the bonds had already been out. If you make a contract with a company to take a 6½ per cent bond the only thing you ever have to look to the company for is to get your 6½ per cent. Any new investor who may come in, depending upon all the circumstances and conditions at the time, would exact conditions as conditions then determined. We have a lot of data and statistics on building costs that influence us in deciding whether an issue is good or bad at times. What we are interested in is whether the company can pay its interest on its bonds and a fair rate of return on its capital stock and keep its ship going all the time with a margin over. In the final analysis the only way you can do that is to get a reasonable return on the value of its property. [fol. 858] If they would be more interested in the amount of the securities that would mean in the final analysis that its earning power is reflected in the value of its securities. If I were re-financing the Kings County Company I would put 50 to 60 per cent of the capital issued in bonds at the present time. The price is already determined if there is a quotation for those bonds. They yield the investor about 6½ per cent. Your 5 per cent bonds are selling around 80 and your 6½ per cent bonds are selling at par. I think those are the prices. If they were 5's they would have to be sold to the public around 80 and that would make I think about 6½ return. I would like very much to issue preferred stock. I probably could issue about 20 per cent or so of

preferred stock. My own opinion is it would have to yield somewhere between 7 and 8 per cent. I know that plaintiff company has just issued some preferred stock. I understand it was over-subscribed. They sold a goodly amount. I believe 7 per cent was the return on that basis. I have nothing to do with that. That does not change my opinion any. That was sold locally to their own consumers and that is a little different from going out all over the United States and placing an issue. If they could sell it to better advantage I certainly would advise them doing it. I think it was a very good piece of business for them to do it. I said I would issue between 50 and 60 per cent of bonds and about 20 per cent in preferred stock. That would leave [fol. 859] 20 or 30 per cent in common stock. I don't think the company would pay out all it earned on its common stock. I don't know what per cent of its earnings would be charged for surplus. I would have to do a little figuring on that. I don't know what the common stock would have to sell for. I am not prepared to give you a snap decision on that. I said I did not think a banking house, if you could not earn 8 per cent on the value of the property, I do not think a banking house would be interested in it because in the final analysis money will go where it will earn the most, and there are plenty of places where it can earn a great deal more than 8 per cent. The investor knows perfectly well that the thing that determines the earning power is the property, it is not the securities that are out, it is the value of the property, that is the thing that determines it, but his rate of return is dependent upon what he earns on any particular type of security. It is the value of the property as I would analyze the situation that determines the amount of stock, whether it is 1,000 shares or 10,000 shares does not enter into it. The man who owns that stock is the owner of the equity in the property. How much of an investigation our company makes when a new issue is offered to us as to the value of the property all depends on the individual case. There may not be any two [fol. 860] cases alike. Sometimes we send engineers down there to make an inventory and appraisal. Sometimes we actually send an engineer to investigate a concern. Confining my answer to gas utilities in New York, we have done that on an issue of stock of a gas company. We have never

made an inventory of present values of the gas companies in Greater New York. I don't know what the books of the company show. The value I base my opinion on is not the book value. The book value is a very desirable thing to know, but if we have any serious doubts as to the value on which the company is entitled to earn then we would call in an engineering firm and get the benefit of their advice. I would not put their book value on any basis, whether too high or too low. If I believed that the book value was not over the value of the actual plant of the company whether I would make any further investigation all depends on the individual case. I do not think you can answer that yes or no. I do not attach very much significance to the stated value of the capital. I mean that is all reflected in price. I mean if a stock, has a par value of $100 and the values are not there, the stock usually does not sell for $100 it sells at some other figure. I do not [fol. 861] attach any significance necessarily as to the stated par value of any securities. What it sells for is the thing. I am talking more about common equity stocks. I do attach a good deal of significance on a preferred stock where it has a decided preference to a certain amount of assets. A preferred stock is a guaranteed payment of so much dividends each year. Of course on common stocks the trend in banking circles for a number of years back is to do away with the par value and issue so many shares without par value. Nevertheless, they ultimately come to have, even if they are issued without any par value, they ultimately come to have a market value, and that is dependent on a variety of conditions.

[fol. 862] Kings County Lighting Company

April 15th, 1924.

JACOB H. HOLLANDER

Direct:

My name is Jacob H. Hollander of Johns Hopkins University, Baltimore, Maryland. I am Professor of Political Economy, head of the Department of Political Economy, and have been connected with Johns Hopkins for thirty

years; for twenty years as full professor. I have been all the time occupying the same chair in the same department all the time; thirty years ago carries me back to my graduation. I was appointed to Johns Hopkins immediately upon graduating. I had no experience in instructing before that. In the course of my professional career, I have devoted myself to that subdivision of political economy dealing with public and private finance, in the main. With the outbreak of the World War problems of finance, public and private, and price changes in relations to business and social matters became so dominant that my attention centered on those. I have since followed the matter with some concentration on that particular part of economic relations.

From time to time I have been called on to deal with financial and relative problems for the Government. Beginning with 1897, when I was secretary of the United States Bi-Metallic Commission which went to Europe and sought to arrive at an international agreement for the use of silver, and after the Spanish-American War, President McKinley sent me to Porto Rico to devise a system of taxation for the Island, and I was the first Treasurer of the [fol. 863] Island. A little later I was sent to the Indian Territory to find a system of taxation for the newly admitted State, President Roosevelt had me go to the Dominican Republic to readjust the Dominican debt, and last year, I was economic advisor of the United States Coal Commission, having to do with the matter of investments and royalties. A year ago I was asked by the Consolidated Gas, Electric Light & Power Company of Baltimore, to state before the Public Service Commission views which I had expressed in public addresses in Baltimore. Since then I have been asked to appear, and have appeared, for the international Railway Company before the Public Service Commission and for the New York Interurban Water Company before your State Supreme Court and yesterday for the Brooklyn Union Gas Company case before the Special Master, so this is the fifth case in which I have appeared.

There has been a very great price change over the prices existing prior to the World War, of commodities generally. This general change that has taken place can be accounted for by economic laws and principles. I have used graphic representations of the changes; that is to say, instead of

presenting merely the numbers I have reduced the numbers to charted form. If I may use that as a basis for my statement, it would, I think, clarify it. Here are charts. (Witness produces.) I am now concerned only with the first sheet, marked 1. May I say that prices have been collected for a number of years before the World War by various agencies, governmental and private—the Department of Labor, Bradstreet's, Dunn's, but the event of the war gave such importance to these statistics, that very much [fol. 864] greater care was taken and the entire collection made much more precise. Particularly was this true of the activities of the Department of Labor. Three kinds of price figures have been collected and are being collected there, which are distinguished as wholesale commodities, retail foods and cost of living. They are collected and published monthly as to wholesale commodities and retail foods and quarterly as to cost of living. The wholesale commodities will serve the purpose best, because the number is very large, some 404, and selected with such range as to represent what might be called general purchasing power.

In accordance with the law of large numbers, if you take a great series of goods, any particular variations tend to correct one another, and by taking 400 goods over the whole range of production, any circumstance by which one particular goods will have risen above its natural level will be corrected by a converse feature of another commodity, which will have fallen below its natural price. The first curve in this chart is merely a device to make more apparent to the eye these price changes in the past ten years. Each of the year compartments is divided into twelve smaller compartments, corresponding to the months, and the price for each month is marked and then these are connected up. It appears that if we consider the prices which prevailed in 1913 as 100, those prices remained practically stable in 1913, 1914 and 1915 and up to the closing months of 1915. Then began [fol. 865] a rapid upward movement represented by the reflection of war demand. That upward movement, which continued through the remaining months of 1915, 1916 and up to the time of our entry in the War, in the spring of 1917. Then a very gradual upward movement continued until the Armistice. That is during the period of our participation in the War. After the Armistice there was a six months of

falling prices, after which the upward movement resumed, this time with great violence, and continued until the early summer of 1920, at which time prices had reached a peak of 248 as against 100 in 1913. That peak of 248 means that if one had in mind a certain requirement for a supply of commodities of the most various kinds, including all commodities that figure in our national production, those commodities could have been bought for, let us say, $100 in 1913, and in 1920 would have required $248 to purchase. Or, conversely, that if one had a $100 nominally in 1920 he would really have had as far as his ability to obtain things for them, only $40 as compared with where he was in 1913. As to the situation at the time of our entry in the War, say 1917, the exact figure I can locate by turning to the tables, but approximately it would have been about $185. You see, it depends: February, March, April, it would have been very near $175 if we take April. The same principle would have applied there; $175 would have been necessary to procure the amount of commodities generally that $100 would have in 1913, and similarly, the possession of $100 in 1917 would have only been a little under $60 as compared with 1913, merely dividing $175 into 100.

[fol. 866] In the early summer of 1920 a downward movement of great precipitancy set in and in a year the prices dropped from the peak to a trough of approximately 250 to approximately 140. Thereafter, through 1921 and up to the beginning of 1922, they remained at that low level. Early in 1922 a recovery set in and proceeded until a year ago, April, 1923, when the upward movement was arrested and a slight downward movement developed tending very definitely toward stability again, which has since continued. The whole movement from the middle of 1922 to the present time partakes of the character of stability, barring an incident rise a year ago that was arrested. At the end of the year 1923, the average of these prices was 151. It is shown by the margin of the line to be 150. That means that $150 are necessary to obtain the amount of commodities generally that $100 would procure in 1913; or stating the same fact in reverse order, that $100 today possesses the equivalent purchasing power of $66 in 1913. That applies to wholesale commodities, purchasing at wholesale, and all that I have spoken of so far with respect to this range of prices has been with respect to these wholesale prices. Exclusively

wholesale commodities, 404 being the number used by the Bureau of Labor. I am not in any business conducting any manufacturing business, or in any line of endeavor except my profession, but I have bought and have had to buy things during that time to live—I have a family and have experienced in some degree this change that I have spoken of in my acual experience. I think I share the experience with every other human being that something has transpired [fol. 867] since 1913. It surely is a fact of my experience with everyone else. I would not base, however, a conclusion upon my personal experience in the matter. It is not necessary. I have much more convincing arguments. It would trouble me from my experience, to state just how high wholesale prices had risen in 1920, and at the same time to say how much the prices today are over those of 1913. That is precisely why careful reasoning and argument in the matter of changes in purchasing power, changes in the diminished buying power of the dollar must make use of such data as these. I have merely adopted exactly and bodily, without any change of any character, the monthly index number announced and published officially by the Department of Labor. The Department of Labor has been publishing that during the ten years that we have here. It published it before that, with a smaller number of commodities corresponding to what I have sought to indicate the greater and greater care and precision which has been employed. The Department of Labor has a separate agency known as the Bureau of Labor Statistics which publishes a monthly labor review. Incorporated in the activities of this Bureau of Labor Statistics, and occupying a very important place in it, is the collection of price data computation of that and their conversion, as it were, into an index number.

An index number is a device which bears a relation to prices that we might speak of a thermometer bearing to [fol. 868] changes in temperature. It is for the purpose of making the changes in a large number of commodities, so large as to eliminate specific variations, intelligible. Now, that is done by agreeing upon a typical year and in taking that as a baseline. The year 1913, after very careful study, has been used by the Department of Labor as the baseline. It would make no difference whatever, any year might have

been taken, it would merely alter the degree of the rise, but 1913 has been employed by the Department of Labor. I will specifically give an index number here from my chart. Suppose we take the peak point,—that would be 248; that is the index number. The end of 1923 would be 151; indicated here 150 and the index number for 1913 would be—in order to secure even better results, they take 100, the average, the monthly index numbers of the entire year for 1913 and treat them as 100, so you see there isn't any one month of 1913 that is precisely 100, it is the average monthly figure for 1913. Take, for instance, the end of 1917, the index number would be approximately 178.

I should like to add one thing to my statement of the index number, to make it clear; that it will do the thing that the converse is capable of use. After the prices of these commodities for any particular year are ascertained, they are then expressed as percentages of what they were in 1913. For example, if cotton was 20 cents in 1913 and 40 cents in 1918, the relative, as it is called, the relative for cotton in 1918 would be 200; if it had been thirty cents, it would have been 150. Such a relative is computed for each of the 400 and the average of those is then the total [fol. 869] index number for that year, but not a simple average. If it were just a simple arithmetical average, there would be the possibility that one unimportant commodity that had undergone great variation would distort the whole thing. Pepper, for example, might have undergone an increase of 300 per cent, and it would affect the entire average disproportionately. So what is done is to weigh each commodity. That is to say, to give it the importance in making up the average that that particular commodity occupies in relation to the total production of the country. In other words, this 1913 baseline is simply an arbitrary determination from which point to measure but it would make no difference, what particular year was taken, it would only show a greater relation to that year, whatever the year might be—it might be 1812 or it might bear a certain relation to 1812, or 1820, or 1813; all exhibits being taken from that baseline. The idea being merely to agree on what is a typical line. It is just like a cubic centimetre in the French measurement, or hydrogen in the comparative measure of elements, only an arbitrary base

from which to reckon things. You then have an index number something like this. That is a weighted average price of a large number of commodities relative to an accepted baseline. Answering the specific question that can be regarded either as how many dollars are necessary at different periods to acquire such a general range of purchasing power, or, viewing the same fact from the other angle, how much a nominal dollar regarded as purchasing power is worth. Then we say that the index number, taking round numbers, is $200, it means either, therefore, that [fol. 870] the dollar is worth fifty cents, or that two dollars will buy what one dollar would buy before. The converse of the index number is the purchasing power of the dollar represented in percentage. The man in the street probably would not know much about what you mean if you told him the index number was 150 in December, 1923, but if you told him that a dollar in 1923 had about 66 2/3 cents perchasing power, he would understand you, but you would be telling him the same thing in either event. I have stated that most of us, probably those of us with large families, at any rate, experience something along the same line as indicated in this line on this sheet, but that line comes from no personal experience but from the work of a statistical board, and the line that I have used is a line representing the information published monthly by the Department of Labor, circulated throughout the United States and filed in the Library of Congress and the Universities of the country. I have taken it from both sources. It passes current among economists in their thought and work. That is that line representing the wholesale commodities. That is what we engineers call a curve; below that you have retail food, a line representing retail food that seems — deviate at times from the line representing wholesale commodities.

Mr. Ward: I object to any evidence as to the two curves, one shown by dot and dash, marked "Retail food," and the other shown by dots, meaniag the cost of living, as being incompetent, irrelevant and immaterial in this case. I [fol. 871] have no objection to his solid line showing wholesale commodities, but I do not see what the other two have to do with this particular case.

Mr. Moran: I am just asking their origin now.
The Master: Objection overruled.
Mr. Ward: Exception.

Those are also collected by the Department of Labor and have been used by me in the same manner, merely converting the numerals in this graph representation. Retail food is of 22 articles of food, the cost of living is an ingenious device which the Department of Labor has employed, in which all the elements that figure in household expenditure enter and are given the importance that they play in the typical expenditure. I mean if food, for example, costs three times as much as rent, then in making up the averages, it would be weighted as 3 to 1.

The diversions between the lines between retail food, for example, and wholesale commodities, and also between cost of living and retail food, follows a very familiar economic principle that in periods of a great price change the changes appear first in wholesale commodities, then after an interval, described as a lag, in retail prices, and then after a further interval, in cost of living, and in reverse process, when a price drop occurs, wholesale prices drop first, then after an interval retail prices, and then, last of all, cost of living. So the apparent diversions between the lines is [fol. 872] really the operation of this principle of lag. The general character of the three movements, the trend, is identical.

Q. I notice, though, that the cost of living still keeps along there in 1921, 1922 and 1923, well above wholesale and retail.

A. Yes.

Mr. Ward: I renew my objection to any evidence on the line of retail food or cost of living as being irrelevant and immaterial in this case.
The Master: Objection overruled.
Mr. Ward: Exception.

A. It conforms, however, to that principle. It would obey the trend more gradually and more slowly, because incorporated in it are such elements as rent and customary payments.

Q. That curve marked "Cost of living" would represent our personal experience better than the wholesale commodities curve we spoke of before.

A. Its interest lies in the relation to wages and income, of course, or salaries and the like.

Q. I know, but our own personal experience, yours and mine and other counsel here, our own experience in the last ten years.

A. Yes, I think the cost of living would be 173.

That is at the end of December 1923 and at one time it got above 200, in 1920. It is graphically shown here. If a person had a rule of proper markings you could check it [fol. 873] off on this curve. All data whatsoever on this chart are derived exclusively from the Department of Labor gathered and published in the way I have spoken about on wholesale commodities.

Mr. Moran: I would like to have this folder marked for identification, the entire folder.

(Marked Plaintiff's Exhibit No. 80 for identification.)

Q. Doctor, now you have told us about these changes which have been indicated by the publications of the Department of Labor which represents the price change occurring after 1913, and I am now asking you as to the causes for the general change. That is I notice here, if this is right, and I presume it is for the moment, that they are higher, prices generally are higher we will say, since the first of 1916, than they were before that time, the peak, as you spoke of it, being reached in mid-summer 1920. Now, if there is an economic law which accounts for the general change or for any variations in the trend, I would like to have you state it. How did it come about? Did it come about because of a great demand and a reduced supply, or was it for something more phenomenal or general than that?

A. The existence of this kind of information has made possible a very great advance in the economists' interpretation of such movements. That prices should have moved from 100 to 248 and then dropped as low as 148 and then remained stationary, practically, cannot be chance occurrence, but must represent the working of certain great forces. Those have been studied with diligence, and the

conclusions reached, which have been tested by survey of a [fol. 874] longer period, and these are the conclusions reached. Prices represent a relation between commodities and money. There is a certain number of goods and services, there is a certain amount of money. Dividing the number of goods and services into the amount of money, we have prices. If the amount of money remains unchanged and the number of goods increases, prices drop.

When I say the amount of money, I mean the volume of money. The real fact is the volume of money available for business purposes. If the amount of money increases and the amount of goods remains unchanged, prices advance. If both magnitudes increase in the same proportion, prices remain unchanged. That principle is old, it has been observed for centuries, as far back as the effect of, or the inflow of gold, at the time of the discovery of the New World, into Europe. It was observed and accepted in the 17th Century, and throughout the World's experience of price disturbances; but it has taken on a new definiteness and it possesses an indubitable quality in the light of experiences represented by these violent changes.

It has also been tested with a view to seeing whether it is a sufficient explanation of what has been the important price changes. First, with respect to applying that general explanation, the changes which have taken place here, in 1913, 1914 and 1915, representing normal years, you might say, from the begining of that period until the end of 1915. By that time the amount of requirements of the Allies, of the European powers for munitions and foodstuffs, compelled them to ship gold into the United States, [fol. 875] and we had therefore a rising level, a rising range of prices, which extended up until our entry into the War.

The shipping of gold, enlarging our volume of money, by which I mean circulating medium and credit combined, in excess of what would have been the normal supply. That would have continued during the war, during our participation in the war, and would have been more pronounced because in connection with our war financing we were driving or we adopted the policy of expanding the amount of money out of our limit of credit. It was only checked by the price fixing activities of the United States Government through the War Industries Board. The natural effect, therefore,

was to reduce somewhat the working out of this increased amount of credit. Toward the end of the war, the process was arrested of creating additional money material, but only for a time. Contrary to what had been anticipated, the returning armies developed an active business boom, which was encouraged by the creation of additional credit, and we we entered upon 1919 and 1920, with a veritable inflation of credit, and prices rose accordingly. In the summer of 1920 the credit fabric had grown top heavy with respect to the gold support, the gold substructure, and in order to prevent a breakdown, the Federal Reserve Board took measures to contract the volume of credit, and that ushered in or that was followed by a period of price decline, which culminated in what I term the trough in 1921. There was depression for a while, then gradual recovery and again a tendency towards—an incipient tendency towards boom and the expansion of credits last year, just a year ago. Just then the [fol. 876] brakes were applied, the discount rate was increased, the moral influence of the Federal Reserve Board was asserted and prices dropped from—or, rather, prices returned to this stability which had been in evidence and has since continued. A review of the ten years' experience, therefore, lends or gives a very definite confirmation to this contention that prices are not accidental, that they do not just happen. This price or that price may represent shortage or over-production, but the index number is designed to avoid that. The general purchasing power, the buying power of a dollar, when it undergoes such changes increases in obedience to certain definite laws, and those laws are that if the amount of money is increased without corresponding expansion in the amount of goods, prices go up, and conversely.

Now, if I might say from that the economists tend to take a somewhat longer sweep and check up their conclusions. Perhaps I should not speak of economists, but should speak of myself, I take a somewhat longer sweep and ask how this worked out. Suppose we say that in 100 years—the last 100 years, is there anything in that which runs counter to it? If there is, the law has made good, if there are exceptions to it. Perhaps I should have used the term "law." These general prices are determined by the amount of goods in relation to the amount of money. I

should account for any marked price change and for any marked change in the buying capacity of the dollar, by an increase in the amount of money or an alteration in the volume of goods.

[fol. 877] Take the period shown on this chart, page 1 of Plaintiff's Exhibit No. 80. There was a very marked expansion in the volume of money in 1917 to 1923 over what it was before that time in 1916, over what it was before that time, and that is the explanation I gave as the reason for this generally higher price. I am going to check up myself by referring to other times and other occasions, historically. The volume of currency and the amount of gold in this country is a known and ascertainable fact over these years. There was an influx of gold at the outbreak of the European War and it has continued and there is a large quantity here now, very much more than there was at the outbreak of the war. Besides the gold, there has been an expansion of the credit system and that has continued. I want to say that in the past experience there is nothing which contradicts this, and that seeming contradictions of it in reality are confirmations of the principle that prices represent the relation of goods and money. I want to call attention to another chart which I have here; the second chart. Commodity prices in the United States from 1810 to 1923, and in England from 1800 to 1923. There are slight variations in this as compared with the others. The base line is 1914 instead of 1913. There was no deliberate motive in picking out 1810. I adopted this chart bodily from the Harvard University Committee on Economic Research but they commonly assign 1810 as the beginning of the industrial history of the United States; about that date, the purpose of it or the necessity for turning to other quarters [fol. 878] is that the Bureau of Labor's figures of course do not go back that far. This chart has been prepared by a group who are among the ablest statisticians and economists in the United States, and is accredited as the best exhibit of necessarily scanty material that is available for earlier periods. The use to which it is put does not call for a month by month precision. As representing the price movements in the two countries for a century, it is entitled to acceptance.

Now, the striking fact in that exhibit is that from 1800 to the outbreak, let us say, of the World War, there was let me confine my attention to the United States at this time—there were two remarkable peaks, followed by two pronounced troughs. Taking 1913 as 100, prices rose from perhaps 170 in 1810 to 250 in 1814 or thereabouts, then dropped more or less uninterruptedly until they reached perhaps 85 in 1843, and again in the period represented by the Civil War prices rose from 105 or thereabouts up to again 245 and dropped then thereafter more or less continuously until 1897 when they were below 70. Certainly that is exposing a theory to a very drastic test to inquire whether such variations confirm it or contradict it.

In 1814-1817, the period of the War of 1812, to be considered as a sort of sequel to the war between England and France which came to an end with the Battle of Waterloo, the United States suspending special payments in the form of a general bank suspension. The banks of the country were no longer under obligation to pay their notes in gold. There was a great emission of paper money and of credit and a great enlargement in the amount of money which might be expected therefore, or which concerns the princi- [fol. 879] ple that if you increase the amount of money, prices will rise. Precisely the same thing happened at the Civil War, thanks to Secretary' Chase's theory or policy of flat money, the United States emitted a great volume of greenbacks, being at liberty to do so from the suspension of specie payments, and being limited only by the capacity of the printing press. In both cases, therefore, we find extraordinary and mechanical, almost creations of additional money material, resulting in a precipitant advance of prices. After the war in each case it became the policy of the United States to return to specie money, bank money in the one case and silver money in the other case, convertible into gold, and the only method by which this could be accomplished was by contraction, and that was entered into. The amount of money, therefore, was reduced and just as the course of the war was attended by inflation, the sequel of the war was marked by deflation, a process of reducing the amount of money; and, therefore, inaugurating a fall in prices. But another factor operated here in accordance with the theory that has been set forth. The money mate-

rial primarily gold, after both of these periods, was very remarkably reduced by the diminishing output of the mines. From 1817 up to the discovery of gold in Australia in 1851, the world was really in a period that has been described in monetary history as a gold famine, in which the amount of new gold produced barely sufficed to replace the amount of gold used in the arts and lost by abrasion. Then came [fol. 880] the increase in the gold production of the world and a recovery in prices. The years following the Civil War were likewise periods of gold curtailment, that came to an end only with the discovery of gold in South Africa, the increased exploitation of the Yukon and the operation of the cyanide process of smelting in 1897. It was that diminishing supply of gold, combined with the demonetization of silver that made possible the Free Silver campaigns, anticipated a little earlier by the Greenbacks campaigns, the shrinking amount or reduced amount of money material. Mines were producing relatively less gold and the use of the two money materials, gold and silver, came to an end after the Franco-Prussian War and Germany, that had been using silver, united her currency on a gold basis, and the Latin monetary union that had used the two metals, was dissolved and the United States in 1873 formally demonetized silver. The period, therefore, after both of these wars was a period in which the amount of actual money in circulation in the form of paper money was deliberately reduced in order to make that smaller amount convertible into gold, and then also the gold basis was reduced by technical processes of mining, which have given name to these periods as the gold famine. So again the principle runs still, that a period in which the money material is reduced will, with no change in the amount of goods, bring about falling prices. If, however, the amount of goods in addition is enlarged, that process will be accelerated.

In the period after the Civil War that is precisely what took place; the Continent was opened up, transcontinental [fol. 881] railroads were built, the South recovered from the war and regained its economic place; it was a marvelous generation, and in that period therefore you have the extraordinary increase in the volume of goods accompanied by the decline in the volume of money.

A crucial test of the theory now remains, and that is the movement of prices since the World War. That is indicated by the third peak in this chart, which we have examined, and I have set forth in detail in the first graph. In 1913 prices were 100, practically, and in 1920 they had risen to 248. It was a period in which the United States received from a war-convulsed Europe a volume of gold far beyond its normal share, in consequence of the frantic requirements to obtain foods for armies and munitions, and all the gold that was in circulation in Europe in actual exchange was withdrawn, the reserves of the great powers were broken up and the United States was practically flooded with that. With our own entry into the war it became necessary to raise billions of money, and the processes by which they were raised were those that seemed inevitably connected with war finance, great expansion in the volume of credit in order to enable the banks and investors to absorb war obligations, Liberty Bonds, and certificates of indebtedness, and that carried with it the relaxation of credit control by the Federal Reserve Banks, so that check was removed from the expansion of credit for commercial purposes. That became a highly speculative movement, as we know, and we come to the end of 1920, but the overwhelming fact during this period was the creation of an ad- [fol. 882] ditional volume of money, first, through the influx of gold and then through the erection of a great credit structure upon that gold. Now, afterwards the peak was reached in 1920. From 1920 through until 1921 prices dropped. The bubble was pricked in 1920, because the credit structure erected upon the ground had attained proportions so towering that it was doubtful whether any continuation would enable the country to maintain the convertibility of its obligations into gold. The legal requirements of the Federal Reserve System called for a gold reserve of 45 per cent, from 40 to 45 per cent. The actual percentage had dropped below 40, and the intervention of the Federal Reserve Board, by increasing the discount rates and practically giving warning that that was only the first step, was obligatory unless the United States was to suspend specie payments. The result was a contraction, very sharp, of the amount of credit, and again we find prices responding to that and dropping. Therefore the decline rep-

resents a process of a reduction in the volume of money relating to the commodities. That is a very painful process, falling prices is a very painful process, a very costly process to the business world, and a point is reached, as it were, where the slack has been checked into a point and stagnation results. Bearing in mind the distresses, agricultural and industrial, of 1921, associating those with the drop in prices from 250 to 138 perhaps, it can be understood why exactly the same procedure that occurred after the civil war occurred now. After the Civil War was over it was contemplated that the entire outstanding reserves should [fol. 883] be withdrawn. They were, until the volume had shrunk to three hundred and forty-six million, and then the distresses of falling prices were so acute that Congress definitely forbade the further contraction, and there they have remained ever since, and so the outcry and the sufferings of business depression operated, I think, to discourage any further contraction, and the policies of the credit organizations in the United States were in the direction of playing out the slack, particularly in the direction of providing additional facilities for agricultural and even for distressed business. Accordingly, we find in a century of price experience with these peaks and troughs, nothing that should lead us to abandon the principle, but we find very convincing confirmation, and the economist leaves this review with the stronger conviction and opinion that as to prices and as to price trends it has gone far beyond the stage of policy and personal opinion, and can really take on the dignity of a forecast which should be like any scientific opinion, an application of definitely established principles, and it is in that way, and not by doping or touting, that an economist entertains an opinion as to future prices. The prices are determined or are gauged by the amount of money, the volume of money, in comparison with the volume of business done. You have got to have those two facts in order to make predictions.

There is evidence on this Sheet No. 2 showing the effect of the discovery of gold in California. It was that which terminated the long price drop. You will notice almost precisely with the discovery of gold in 1848—as soon as that [fol. 884] gold got into circulation, prices moved up and continued moving until the panic of 1857 sent them down.

That was not due to a contraction in the volume of currency. There you have an increase in the amount of gold, the country has grown up to this increased amount of gold. The drop which took place from 1857 to 1860 was in part a temporary one and in part perhaps an anticipation of the impending conflict. There must be an expansion of credits following the discovery of gold and putting that gold into circulation in the 50's. As soon as gold goes into circulation, it finds its way into the banks and they have additional lending power. There was no contraction in 1857, to bring about that panic. I think that was a period of over development in the country, a period of wildcat banking and of feverish internal improvements, reckless state projects of one kind or another, and you have the familiar panics which we have had from period to period. The very natural effect of a period of rising prices leads to a boom, just as you had in 1920. Prices cannot continue indefinitely going up. Now, when the bubble gets so big, it either bursts or is pricked, that one bursts and the immediate effect is an abrupt fall. That corresponds to what took place after 1920. When a bubble is burst, when a price boom comes to an end, there is an abrupt collapse which carries prices down below the point from which they will recover. There is another discovery of gold I mentioned here. Its effect is manifest, very strikingly, in the same way. It does not take long. That was in 1897, and there it moves up. There is a temporary halt, say in 1907, when we had that bad crash but the [fol. 885] thing goes on—I notice from this chart, beginning along there in 1896 or 1897, the curves both for England and the United States go upward until 1912 or thereabouts, gradually ascending. I account for that by an increase in the volume of money, entirely so as compared with the business done in each country. The depressions we have frequently now, but the term "high cost of living" came into use before the war. There was even then discussion as to what would happen if gold continued to be produced in the volume it was. Prices had been rising steadily from 1897 on. I account for that long period there of almost twenty years, the upward trends, that is due to an increase in the volume of circulative money in the two countries, England and America, but to make my answer more intelligible, let me say that you secure an increase in the

amount of money, first, by an increase in the primary money which is gold, and then by the erection of a credit fabric, credit structure, upon that. If you improve your bank effectiveness so that with a smaller amount of gold you can do a larger business, for instance, through the introduction of checks generally, you magnify the effect of the increase gold production, and probably that took place. You had, in other words, a larger amount of gold and a greater efficiency possessed by that gold in creating credit. In these lines here—I have the curves representing both England and the United States. I have spoken of the United States principally. The line representing the United States follows the line representing England in substantially the same way, and it tends in a very interesting way to con- [fol. 886] firm what I have said. Take the period of the Civil War, and you will notice that the United States line shot up into an abrupt peak, while England did not. That was because in the United States we issued the greenbacks and England did not. On the other hand, the drop which in England was from 1873 on, affected England as well as the United States, because they naturally suffered from the diminished gold supply, as we did. In the United States, our process of contraction, falling prices after the Civil War, was made up of two elements, reducing the outstanding volume of greenbacks—England had no part in that—and also having a lessened gold supply, and England did have a part in that. The gold supply was smaller in proportion to the requirements. When we speak of the gold supply we mean the mining output, less certain definite withdrawals. First, the arts take up a certain amount. Then there is that curious and inconceivable trend of gold to the Orient, to India, which has gone on for centuries and which surpasses the knowledge of man. They simply mop it up, some think it goes to the native hordes, but from the Middle Ages each year sees a movement of gold in India, and it never comes back. At any rate the total output of gold from the mines, only a certain part of it is available for monetary uses. Now, what took place here was that that amount available for monetary uses was less than the increased production of goods required.

[fol. 887] Q. I want to ask you a question. Is this matter of price change merely a matter of each country by itself

or is it international? Has it any international relation? I notice the line for the United States over the last century coincides with England—England and the United States coincide in some places and in other places they deviate. I also notice in your other chart that you have not given us anything for England at all.

A. Well, as long as you are comparing countries which have the same ultimate monetary units, namely, gold, the international price level is pretty much the same. There are elements of variation due to the working of the customs systems and systems of taxation, but in the main gold acts as sort of a balance wheel flowing from one country to another and bringing prices pretty much to an equilibrium. If you will examine Chart No. 2 you will see that whenever there has been any sharp difference, it is because that country has abandoned the gold standard. The sharp difference in the United States was during the War of 1812 and the Civil War, in both of which periods you see we were on a paper money basis. Then at the present time there is no true international level, because we alone virtually among all the great powers of the world have a gold standard; other countries of the world, England, France, Germany, Belgium, Russia and Italy are all on a paper basis. There was quite a coincidence between the prices of England and the United States during the World War, and afterwards. They trend in the same direction at all times, except that there you had a situation which worked out that prac-[fol. 888] tically—and that is a situation still—the purchasing power of the gold dollar had been reduced, but not as much reduced as the purchasing power of the paper pound. You see, the paper pound had gotten less and the gold dollar had gotten less, but you will remember that the paper pound declined but the gold value—well, the paper pound was pretty well supported during the War and afterwards, and that is why the price level does not greatly differ. If you reduce the paper price to a gold value, the international price level would be practically the same thing.

This chart was published by the Harvard University Committee on Economic Research on June 10th, 1922. If I may quote from it: "For this purpose the most interesting and pertinent evidence is that afforded by the history of price movements in England and the United States since

the year 1800." In reference to the chart made up by the Harvard Committee on Research, they probably did not commence to keep this chart back in 1820. I knew something about these price movements before I ever saw that chart. The fact of a price peak at the time of the Civil War and a long period of price decline after, and similarly the price decline that preceded the discovery of gold in California and the rise which took place, are all very familiar facts in the study of American monetary and financial history. That takes us back—back in 1849 and 1850 which is familiar in American History, and clear back to the earliest time, probably 1800, I presume, it is written and recorded some place. The data, the facts are such facts as you would [fol. 889] find in a general history of the country, that business was disturbed by falling prices and farmers were suffering from fallen prices, and, on the other hand, that prices were rising and great distress suffered by those who were with fixed income and the like. But when the matter was studied in the present way, that is to see whether the experience of the past years afford any repetition of the working of this principle, why, then, a very earnest attempt was made to carry back price figures into these earlier years, and a very laborious thing it has been, because during these periods there was nothing comparable to the Bureau of Labor, and it has been like reconstructing history, not to be jeered at, but entitled to respect. This work has been carried on by careful statisticians, and these index numbers have been presented with precision. What I mean to emphasize, the distinction, is this: We say in the first chart we are dealing with index numbers that are tabulated month by month and published while for this earlier period they have been reconstructed by searching among the price quotations of newspapers and price lists and ledgers; they have been reconstructed out of the past. This possesses exactly the same validity that a history of the past, of the United States, in the period from 1800 to 1850 would possess as presented by some eminent historian—Rhoades, or Schouler, Bancroft or anyone else. I have stated that this variation in price, or this higher level of prices, if I might use that term, without prejudice, existing since 1916, is due to a larger proportion, in larger volume, of money and [fol. 890] credits in comparison with the commodities and

volume of business done in this period as compared with prior periods and prior times. I have no chart showing something confirmatory of either one of those facts, as to the value of money or the volume of business as compared with the earlier periods. I have charts to show the volume generally in this period, the volume of money in the period or the volume of business generally, for a part of the period. The amount of money in circulation in the United States, exclusive of credit, on July 1st, 1914 was $34.35 per capita. Perhaps I can compare the two dates that I had in mind first. July 1st, 1914, $34.35; January 1st, 1924, $44.22. I can give statistics or relation to the volume of commodities available or the volume of business done or the bank clearances or anything that would show the relation between that volume of money per capita and the volume of business per capita, bank clearances per capita, and so on, to get some idea of the relations involved in these two arrays of facts. The volume of money as such would be significant in itself, but the far and way more important fact is the matter of credit. Money is of two kinds; that which we carry around in our pocket and that which we check against in banks; and in the business world as affecting prices, the money which we carry around in our pocket is mere small change. It is the amount of deposits against which checks are drawn that is money in the real sense. When I spoke of the amount of money I had in mind this great body of real money and the [fol. 891] small trimmings of pocket money. Now, the important fact is that in the ten years which we have been discussing the banking system of the United States has been completely transformed by the Federal Reserve System, so that even had there been no change whatever in the amount of gold in the country there would have been the possibility of making that gold support a vastly larger volume of credit. The increase in the amount of money in the United States therefore is a result of the two factors: This great enlargement in the amount of primary money and the greater efficiency of our banking system, whereby the same amount of primary money supports an enormously greater volume of credit. It means that the reserve requirements have been reduced. Formerly there was such a thing as a bank "loaned up". That has definitely been eliminated from banking terminology; there is no such thing as a bank

"loaned up" nowadays because it merely can carry, if necessary, its notes, the notes of its borrowers to the Federal Reserve Bank and rediscount them and rehabilitate its money. That means that the availability of the money is extended to a very much wider scope. The mobility of this primary money is increased, but the interest of this question, the question now arises, accepting this general principle that prices respond to the great alterations in the amount of money and the amount of goods, what is the situation at the present time? As to the fact of that relation, there is no dispute. Some controversy has existed as to the precise correspondence in point of time, but one need not be an adherent of the so-called quantity theory of [fol. 892] money in its so-called precision to accept that general fact that, given an amount of business and increase largely the counters that are used, you have to give more of those counters for the same thing. Whatever doubt there may have been on this score has been almost completely removed by the spectacle of European countries that have pumped great masses of paper money into their circulation. Prices rose promptly. In Germany and France and Italy you have correspondents of rising prices with increased volume of money; so clear that I do not believe a thread of support is given for any dissent from this general proposition. Whatever contention may survive turns on the interval of time that elapses between an increase in the amount of money and the rise in prices. But that a great increase in prices is possible without an increase in the amount of money, or that, conversely, a great decline in general prices is possible without a reduction in the amount of money or an enlargement in the volume of goods does not admit of debate.

My first chart shows the range of prices over a period from 1913 to 1923, and there are variations in those prices. I can show the amount of change in the volume of money from, say 1919, to and including 1923, and the volume of business done in those years. In that material I have assembled here for the ultimate purpose, which I suppose you desire, my opinion as to what an economist believes or this economist believes lies ahead. On chart 3 of the folder I have used two magnitudes, also computed entirely by gov- [fol. 893] ernmental authorities. By "magnitude" I mean

a numerical expression as to total. Nothing has been more perplexing to the business world and to the economist than to form an opinion as to how business was at any given time, what was the state of business. It is very much like the attempt to form an opinion as to the weather, how hot or how cold it is, without the use of a thermometer; many men, many minds. This became a grave problem when we entered the war and it grew necessary to mobilize our resources and to form an opinion as to what was the capacity of the country, and to intensify production, too. Later it became a very grave problem with which the Federal Reserve Board had to grapple. Their desire was to supply the country with ample credit for its productive needs; but what were the productive capacity and needs of the country? At any rate, up to a comparatively recent time we had certain familiar sign posts, much loved by financial column writers—the unfilled orders of the Steel Corporation; the car loadings of the railroad; the number of spindles in operation. They are useful; they are a straw. But in accordance with that intelligible tendency to systemitize information, the Federal Reserve Board undertook a systematic month by month return of the basic industries of the country. It selected 22, so carefully chosen as to be a picture of the business production, the industrial production of the country, and out of these, in the same way that I have described in connection with commodity prices have maintained an index of production, and that is to say, taking 1919 as the base line, the Federal Reserve Board's index number of production in basic industries shows how [fol. 894] the month by month production of the country charges. That is the solid line in Chart 3. The emphasized line, 100, represented the average production in the year 1919, and in this latter appear the upward movement represented by the book of 1920 and the reaction of 1920 into 1921 and the recovery of 1921 or 1922, and the activity of 1923. At the time that this chart was constructed only the December, 1923 figure had been announced. Since then the January 1924 figure, and I refer to it because the December figure ordinarily embodies Christmas loafing in production—the January, 1924 figure corrects that seasonal variation and brings the figure to 120. The purpose of introducing these figures in my argument is the striking fact

that at the present time or at the time we are now speaking, the production of the country, with two bare exceptions is the greatest in its history; that we are producing very substantially above our maximum production in wartime and beyond the level attained in the boom of 1920, and exceeded, actually, only by a few months of last year, 1923. That is just the volume of business done in the United States of America at one time as compared with another, without any regard to a greater country or a greater capacity of industries. It is a comparison of the absolute volume of production. That subject has been worked out with great exactness by your own Federal Reserve Bank of New York city. Mr. Carl Schneider and Governor Strong have collaborated in establishing by careful study what might be called the normal growth of the production of the country, [fol. 895] and they find that year in and year out it shows a trend of 3½ per cent. increase, the actual dips from that being within very moderate bounds, in boom years attaining as much as 5 to 10 per cent., and in bad years dropping down 5 to 10 per cent. You would therefore picture the production of the country as a vertical line moving up at the rate of 3½ per cent, broken by a jagged line showing increases from 5 to 10 per cent above in boom years, and dropping in the others. This is based on the 22 basic commodities which have an important position in economic arguments. I mean now not the argument of the schools, but of all who care to discuss these problems, in the light of modern knowledge. The iron and steel industry would certainly figure in it. For example, if I may read this, the monthly review of the New York Federal Reserve Bank of April 1st is a summary of the fact. As a matter of fact, it shows for the February number which carried it even one point beyond that which I gave for January, 1921, it speaks of this Federal Reserve Board's index:

"The Federal Reserve Board's index of production in basic industries, adjusted to allow for length of month and other seasonal variations, increased less than 1 per cent in February. Production of pig iron, steel ingots and flour increased, while mill consumption of cotton"—evidently they are among them—"and production of cement and lumber declined." I think very likely they include farm products. If not, they would figure indirectly through the bar-

rels of flour produced, or something of that kind, or the [fol. 896] wool clip or something of that kind. It is a very fair picture. However, production represents only one side of the demand for money. The other great side is trade—mercantile trade, buying and selling, and not merely the payroll of factories and materials, but mercantile transactions, wholesale and retail, they constitute requirements for money. Now, to attain precise information on that score the Federal Reserve Board and also the Department of Commerce, had used this criterion: What is the amount in dollars of the checks drawn upon accounts in banks in representative cities? The purpose is to establish a comparison between the mercantile requirement for money at different periods. Accordingly, if you select typical banks in representative cities and secure a return of the dollar amount of the checks, amount payable, you have a very trustworthy exhibit of increasing or diminishing mercantile activity. That chart is the broken line, which is ordinarily referred to as the volume of business in contrast to the volume of production. It follows the same general trend as the production line, with the seeming departure from it in 1923. But that is due to the fact that commodities were then on a lower range, the drop from 250 to 150 would mean that even though a larger amount of business was transacted the dollar equivalent of that represented by the checks would be less. As a matter of fact, therefore, the two curves will show a correspondence.

Q. If the index number remained the same, and by that I mean the index number shown on the first sheet, index of commodity prices, remained the same, these two lines [fol. 897] ought to pretty nearly coincide at any time on Sheet 3. That is the checks drawn to accommodate and to handle the business of the country would keep pace with the rise or decline in the volume of production?

A. The answer to that carries one a bit afield. I should suppose that it would depend if business were in a healthy condition and the commodities as produced were moving straight into the channels of consumption, but if you had what is popularly known as a buyers' strike you might have the volume of production going on, you see, and goods not moving. If I may develop the point, as to what this significance of this is. My contention is that assuming there

were no change in the amount of money, a great increase in the amount of goods would bring prices down. Is a great increase in the amount of goods to be anticipated? The evidence at hand is that we are now producing at virtually the peak in our national history. In the light of the certainty, if it is so, that production proceeds at a moderate augmentation, the chance of any such increase in the forthcoming volume of goods and business that would mop up the available supply of money, to say nothing of any additional increase to which I referred, is negligible. If there were a possibility of a great enlargement of production with no change in the volume of money, a lower range of prices might be anticipated. But leaving aside the volume of money for the moment, to which I hope to come, and confining attention to the production factor, it is apparent that we are now at a point practically, with bare exceptions, unequalled in our national history, that the capacity for any [fol. 898] further expansion is within very definite and moderate limits. We are, like a man climbing a mountain who knows within a reasonable approach to the summit that the summit is in sight. He does not say whether it will be fifty or a hundred yards, but he knows that the summit is in sight. So when one faces the condition that we are now producing at 121 as compared with 100 in 1919, and that only for a few exceptional months in 1923 was that equalled, and knowing too that the capacity for increase has always been limited, the chance for any such great augmentation of our production or our trade as would mop up the available, to say nothing of the prospective supply of credit, and bring prices down, is remote. In this matter of production, we are on a peak production basis, practically, now. Employment would be, of course, incorporated in the volume of production. We haven't men walking the streets looking for jobs any more. The Federal Reserve Board also prepares an index of employment in manufacturing industries in which, likewise, 1919 serves as a base line. The later figure shows that we are practically at 100, exceeded only at the boom of 1920 and the boom months of 1923, and substantially in excess of 1921, 1922 and part of 1919. Unemployment has been mopped up, is the situation. That, taken in connection with the virtual stoppage of immigration and the stoppage of imigration means that there

is no enlargement to be apprehended from the increase of the working force.

[fol. 899] The place that the facts set forth graphically in Chart 4 occupies in the matter is this: If the amount of goods is not capable of any great increase, the only other manner in which prices could drop would be a great reduction in the amount of money. The question, therefore, with which I concerned myself is what is to be anticipated as to changes in the amount of money. The money of the United States is eventually the volume of credit issued by the banks. The relationship which exists between the community and the banks is that business men generally borrow from the banks and the banks, to the extent that it becomes necessary, borrow from the Federal Reserve Banks. The Federal Reserve Banks in turn can lend to the member banks to the extent that their advances are adequately protected by a gold reserve. The money structure of the country, therefore, barring the small circulating medium, which is pocket money, is a structure represented by an inverted pyramid, the apex of which is the gold reserve of the Federal Reserve Bank, above which is the credit extended by a Federal Reserve Bank to the member banks, above which is the credit extended by the member banks to the business community. This structure is represented by the apparently complicated but really simple exhibit, Chart 4. May I say a word as to how that was constructed. The Federal Reserve Board published each month the detailed operations of the system in dollars. In order to present those visually I have taken, following their practice, 1919 as a base line and used that as 100, and converted the other [fol. 900] monthly figures into percentages of 100. This has been done in some cases by the Federal Reserve Board itself, where it has not been done I have adopted identically the same procedure, the only requirement being a simple process of division.

The first of the five curves on the chart is described as bill holdings, which means the extent to which the member banks have had recourse to the Federal Reserve Bank. The exhibit discloses that from 1919 through the summer of 1920 the member banks borrowed largely from the Federal Reserve Banks in order to finance the requirements of the boom of 1919-1920, that since 1920 the volume of bill hold-

ings has declined until a low point was reached in the summer of 1922, since which there has been a very gradual recovery approximating in 1923 almost stability. The significance of that has been that member banks have practically paid off their check to the Federal Reserve Banks and are thus in possession of a great amount of slack which can be played out at any time in the form of renewed borrowing in the manner that the Federal Reserve system contemplates, when occasion arises. As a matter of fact, the present situation is that the Federal Reserve Banks have almost difficulty in obtaining sufficient bills from the member banks to supply themselves with enough earning methods to pay their board. This curve shows that there is a good deal of slack yet that can be let out or played out before you get the same amount of bill holdings that there was in 1920. It is not possible that perhaps the Federal Reserve Bank would not permit that same amount of bill holdings, that they would not have the borrowing capacity—that the [fol. 901] member banks and the other banks would not have the borrowing capacity of the Federal Reserve that they had in 1920. There is nothing to that idea. Bill holding means that if you as a business man borrow money from your member banks—your bank which is called a member bank because a member of the Federal Reserve System—if that bank desires to supply itself with additional lending power, it takes the note which you have given it in return for you loan to the Federal Bank and rediscount it. That becomes a bill holding. When it rediscounts it the proceeds of that rediscount become a reserve of the member bank against which it may create additional lending deposits to a multiple amount of the proceeds of the rediscount. The Federal Reserve Bank does not operate arbitrarily. It is required by law to rediscount bills arising from valid commercial occasions, and we must assume that it operates according to law and that the system contemplates that any member bank desiring to supply itself with additional lending power can take the evidence of its loan to a customer to the Federal Reserve Bank and secure by rediscount on additional lending power, not only equivalent to the amount but to a multiple of the amount, because the proceeds of that rediscount serve as reserves. The point of my argument was that the member

banks are now in the position of a debtor who has a borrowing line of credit at his bank and who has through the access of income or profits been able to reduce his notes to the nominal amount which he thinks it wise to retain with that bank, and who was therefore in a position at any time he desires to extend his borrowings in the manner that [fol. 902] existed before. The drop of that first line, in other words, represents a capacity for the creation of additional credit to an amount that has now been taken in as slack. The Federal Reserve Banks not only advance deposit credits to the member banks, but they also supply the member banks with actual circulating medium. When trade calls for larger amounts, the member banks will withdraw perhaps Federal Reserve notes in larger volume.

Curve 2 shows the volume of outstanding Federal Reserve notes from which we see how exactly the same process of contraction or withdrawal has prevailed, so that the amount of outstanding Federal Reserve notes which at the end of 1920 was 130, as compared with 100 in 1919, is now barely above 80; again disclosing a condition of contraction with the free possibility of very substantial enlargement of the amount of money. Now, the ability of the Federal Reserve Banks to grant these extensions of credit and of circulating medium to the member banks is conditioned upon the amount of gold which it holds, conditioned in the sense that the law to insure banking stability provides a minimum of 40 and 45 per cent, as the essential requirement. If, passing by the third curve, attention is directed to the fourth curve, the gold reserves, it appears that although the advances of the Federal Reserve Bank have been very much less, their actual gold holdings have been very much greater; that there has been a great accumulation of the absolute amount of gold in the Federal Reserve Banks. If that gold holding be compared with the liabilities of the bank, we get a percentage which consti- [fol. 903] tutes the reserve ratio and which becomes a picture of the three preceding factors. That is the last curve which shows that the amount of reserve relative to liabilities has advanced from approximately 40 per cent in 1920 to approximately 80 per cent at the present time. The legal ration required is 40 and 45 per cent—one against notes and the other against deposits. The curve which I

omitted, the third curve, has to do with the operations of the member banks. The member banks, which are the ordinary commercial banks, invest their resources or apply their resources in loans and in the purchase of securities, the so-called loans and investments. It appears there that the loans and investments have remained within the limits fixed by 1920. If the two were separated it would be found that the part played by investments is the larger part and that the expansion of loans has not been as great—has not been notably great. The loans relate entirely to the member banks. They represent the advances made by the commercial banks to the business community, accommodations extended to their customers and what I mean to suggest here is that the progress of the country since 1920 has been possible without any straining of the resources of the member banks, even though they have not been obliged to have recourse to the Federal Reserve Banks. In other words, they have had such ample resources that they could finance the business requirements of the country, including the absorption of large volumes of securities, without straining their own resources in hand and without availing themselves of the facilities that the Federal Reserve Bank [fol. 904] offers. Indeed, that they have done this at the same time that they have discharged in great part their indebtedness to the Federal Reserve Bank.

As to the resources of the member banks, ordinarily they will consist of the lending power growing out of the use of their capital surplus, undivided profits, deposits for the extension of accommodations to their customers. In these last two years what has happened has been that the member banks had additional power through the arrival of gold which has come to them.

Q. This line which you have on here, this curve of bill holdings, would not be of any significance in itself were it not for the line loans and investments, would it—because bill holdings might go down due to the fact that accommodations were not extended by the member banks to the same extent that they were when the bill holdings were higher?

A. The relation is this, that the member banks can at any moment, barring restricted action by the Federal Reserve Banks, enormously increase their loans and investments by the process of transferring their bills to the Federal Reserve Bank for rediscount.

I have a line on here loans and investments, which is virtually horizontal, meaning that loans and investments through this period of five years have kept up in about the same quantity, relative to the amount. It has not deviated at all like the bill holdings. If that did deviate, for [fol. 905] instance, loans and investments might themselves drop off and in turn cause bill holdings to drop off because if the member banks were not called upon by their customers for accommodation in the way of loans then the member banks would not be calling upon the Federal Bank and the bill holdings would not be so large. The member banks have been able to extend these loans and to make these investments without having recourse to the Federal Reserve Banks. Now, if they desired and if conditions permitted, they could make vastly greater loans, in which event you would witness the bill holdings increasing.

Q. Let me ask you another question. You have gold reserves on here. The low point is in 1920 and the high point is 1922 or 1923. Does that line necessarily approximate in its course up and down the quantity of gold in the country or the increase in gold in the country, or has it no relation to that at all?

A. That represents the gold that is actually held by the Federal Reserve Banks. It does not include the gold that comes into the country for use in the arts.

Q. But so far as the gold in the country is used as a medium of exchange and for money, does it represent the whole of it?

A. Barring only that amount of gold which circulates as coin, which is probably small, and that amount which is held as a collateral against the gold certificates, that is held apart in the Treasury.

[fol. 906] Q. Does that amount that is held for the gold certificates vary at times? I am not posted on that.

A. The question is very pertinent because had the Treasury not released the gold certificates into circulation, paying them out, and for every gold certificate that it pays out moving a corresponding amount of gold from the bank vaults of the Sub-Treasury, this gold reserve would be correspondingly larger and one of the avenues by which the Federal Reserve Banks have saved themselves from the incoming flood of gold has been to pay a part of it out into

actual circulation. Instead of doing it in the form of eagles, they do it in the form of gold certificates, but the effect is identical because that is segregated. That withdraws it from the reserve and puts it in the Sub-Treasury. The amount of gold certificates in circulation is now in actual circulation five hundred and seventy one millions. My impression is that two hundred millions of these represent such release, and the three hundred millions or thereabouts are permanently out, or were out before the release. Suppose a man took a check to a bank today and wanted cash, he would get mostly those certificates, unless there was some peculiar situation pertaining to that particular bank. The procedure was formerly when the bank needed additional currency and applied to the Federal Reserve Bank for additional five dollar or ten dollar notes, it would withdraw Federal Reserve notes; and to the extent that these were [fol. 907] remitted, it received gold certificates. Its significance is that an avenue of escape has been used in the insertion as it were, in the return to circulation, of gold certificates. Taking the curve gold reserves which has shown an upward tendency for 1920 and running about level along in 1922 and 1923 and shooting up at the end of 1923—taking that curve and the statement I made about the release of some 200,000,000 of gold certificates, which means the withdrawal of a like amount of gold from the reserve and put into the sub-treasury, that is evidence of an increasing supply of gold in this country, but we have of course the exact particulars. We have other evidence of it. The Curve 4 shows the actual dollars of gold in the reserves but that is only part of the gold in the country, the gold in the reserves. The gold reserves were lower in 1920 than at any time in the five years I have got here. The capacity of loan expansion and the capacity for additional amount of money or volume of credit did not exist in 1920. The gold reserve was lower then because of the volume of credit, and for two reasons. Since then we have received a great additional amount and we will say, underwent a sharp contraction of the amount of credit after 1920. In absolute amount it would not affect the gold reserves. There was no reduction in the absolute amount of gold since 1920. No reduction. There has been a very marked increase, and that increase has been due to a flood of gold

into the country. The gold reserves were higher in 1919 than they were in 1920. There was a period after the war [fol. 908] from the time in which the gold embargo was lifted before Europe had entered upon this great reconstruction plan, in which gold flowed out of the United States. We lost in that interim period about four hundred millions. Then the reverse current set in and it has continued undiminished and has given us the vast gold stock and is still in progress. We are concerned now, with the evidence that is contained on this sheet 4 only, as it has a bearing upon another matter. That is upon prices. The meaning of it in relation to the amount of money is this—that all the conditions are present for an expansion of credit in the manner contemplated by the Federal Reserve system when the occasion exists, and to a degree not contemplated by the Federal Reserve System, in that the reserve has reached a percentage unheard of in central banking, with a continuing tendency in the same direction; that is, that percentage I mean is the eighty per cent of reserve ratio, so that you have a situation in which the member banks are out of debt, except as legally required, to the Federal Reserve Banks, and therefore with the whole possibility of securing additional accommodations when required a reserve which is almost double the prescribed minimum, a continuing inflow of gold and a financing of the country's requirements in a period of high production as 1923 was, without the occasion even arising for the member banks to have recourse to the Federal Reserve Banks. I might sum it up by saying that we are face to face with conditions, which, if left to themselves, would, whether we liked it or not, work out toward renewed inflation. When I say inflation, I mean [fol. 909] a higher priced level. Inflation, in a business sense means a period in which bank loans expand rapidly and forward production and orders take place. In connection with price discussion I have in mind the evident symptom of that in a higher leval of prices, but the two go hand in hand. The term "inflation" is relative to a period of comparative stability. After a period of comparative stability, if prices go markedly upward, that becomes a period of inflation, and if it is imputable to some monetary factor, the increase in the amount of money, then it is described as inflation. The Federal Reserve Board states it

in this manner—that as long as production proceeds normally, increasing with the population of the country and increasing in the manner that the output of primary producers find their way into the market, credit should be supplied. That would not be inflation, that would be only the required increase in the volume of circulating medium, the volume of credit necessary to handle the increased business. Now, if credit should be set out in larger volume than that, so as to make possible speculative commitments for the rise, speculative holdings, then you would have inflation as to credit. An inflation as to credit would lead to or be accompanied by inflation as to prices.

Look back to Chart 1 which is a curve of the index numbers. It coincides practically with the increase in the volume of money. That is the idea. It increases or decreases as the volume of money increases or decreases and it would represent inflation or deflation. You should characterize the period from 1916 to 1920 as inflation; from [fol. 910] 1920 to 1921 as deflation; from 1921 to the present time as stability. 1921 to 1923 is above 1913, 1914 and 1915. 1923 is a period which still bears the scars of inflation and which has therefore an inflation character as compared with 1913. A period of inflation rarely, unless there are the specific factors which we found in the Civil War and in the War of 1812 rarely returns to the pre-inflationary level. I mean to the level which obtained before the inflation begun. Deflation, in other words, is rarely equivalent in amount to the inflation. The years 1921, 1922 and 1923 do not constitute a period of inflation. In the sense in which inflation is employed of a movement in progress. We have tended, we are tending more and more definitely to accept the present level as a desirable solution of the situation, on the clear ground that we shall encounter greater suffering from an attempt to return to the 1913 level than would be involved in accepting whatever hardships may now still be imposed. For the last two and one-half years any change from that upward would be an inflation, or downward would be deflation. We are now establishing a new base level. Those periods of deflation and inflation are not something to be fondly desired by the business world and economists. I think there has been a very decided development of opinion, and a very definite

incorporation of that opinion into policy. The natural impulse of producers is to desire rising prices, the natural impulse of those who have fixed incomes is to desire lower prices. The one means higher profits; the other means [fol. 911] lower costs of living. We have tested both and we have been bitterly punished in each case. The business man had the delirium in 1920, and he realized the penalties of 1921, the consumer, by and large, fought, clamored for a reduction of the cost of living, and it brough- upon him the business depression, the unemployment, the agricultural crisis of 1921-1922, and now I think he says "A plague on both your house, I do not want inflation, I do not want deflation, I want price stability." I think that is the voice of the American business world; it is the voice of the American consumer and it is the voice, certainly of economic opinion. The means of acquiring that are available. That possibility has been long entertained by economists and long urged by men like Jevens, in England, and our own Prof. Irving Fischer, even before the war, had, with great vigor and earnestness, urged monetary reforms which would insure us of protection against even that variation in prices which came about through fluctuations in metallic production, which would save us from such disturbances as the discovery of gold in South Africa and the other variations growing out of that, and there was a strong movement even before 1914 in the way of monetary reform which would secure a stable dollar. But the event of the war and the sequel of the war has been almost dramatic in their disclosure of what it means for that stability to be disturbed in this way, and the feeling has passed from the position of the ideal which these monetary reformers had into a reality through the establishment and working of the [fol. 912] Federal Reserve System. Before the Federal Reserve System was put into operation were a country of de-centralized banking, the 20,000 or more banking institutions were in a state of going alone, competitive banking with only a loose and in a poorly connected relationship in the matter of control. The Federal Reserve System went into operation, and it has urged, partly through its actual powers, but more largely, I think, through its moral role as the central intelligence of the whole credit system of the country, as an effective regulating agency for the in-

surance of stable credit. You bring those two things in operation jointly—a widespread feeling in the business world and in the world of producers, in public opinion, that price stability means welfare and protection against the sufferings of rising and falling prices and, on the other hand, an instrumentality which can make that effective—the Federal Reserve Board—and you have a new era which is developing, an era in which the natural tendencies towards price inflation are being held in leash, as it were, by administrative control supported by business and public opinion in the direction of price stability. The Federal Reserve Board have control over inflation in that they can sort of regulate the amount of bill holdings, for instance. The instrumentality through which the Federal Reserve Board works is dual; the first is the discount rate, which it can raise in the system as a whole or in any regional bank and which, by making rediscounting more costly and by serving as a sort of warning, will tend to check the ex- [fol. 913] panding activities of the banks, but much more important, that that is what I venture to term the moral influence of the Federal Reserve System. When the Federal Reserve Board meets at intervals, as it does, with its advisory board, including the financial leaders of the entire nation, and when it, after careful deliberation, after considering all the circumstances of the country at large not one particular financial center alone, equipped with this skilled body of statistical instruments of precision, when it reaches a conclusion that the time is inopportune for the creation of additional credit, that exerts a restraining influence that far and away transcends the temporary restriction of a higher discount rate. That is only one side of the picture; take the other side of it. Suppose that business of the country requires more credit than there is extended at a particular time. It is merely then—it is just as important, just as practicable and just as actual that the brakes are released and agreement is reached that there should be no strangulation of industry and of credit or of industry by restricting credit, and that additional facilities must be afforded and the discount rate will be lowered. But there again the effectiveness of this control is far greater than a mere temporary response to a variation in the discount rate. When, for example, in 1923, the incipient boom

was corrected it was not the mere circumstance that the discount rate in New York, Boston and San Francisco was raised one-half per cent., nor even the implication that that might have carried with it that we will go beyond that. No It was the deliberate estimate of the most competent [fol. 914] judges of the business requirements of the country that it was not a good plan to dump more credit counters on the table at that time and jack up prices still more or permit them to go up by their own momentum still farther. They have acted in an occasion where the credit was not sufficient, where they released the brakes and gave it impetus. I think every facility was offered after the depression of 1921 to encourage that, particularly in the agricultural sections where a pronounced depression existed, and in the cotton areas when there was any evidence of an insufficient supply. You have now a pilot, as it were, and a pilot in command of the ship. It is my opinion that we have reached a state of stability. There may be seasonal fluctuations there may be fluctuations of specific commodities to adjust themselves to this general level, but that the general level of prices, in the sense of general purchasing power is to remain stable, I believe.

There is a fact known to men now of my profession, which would call for a discount of the statements I have just made about stability, either mental discount or an actual discount. It is always possible to invoke the contingency of something —a bolt from the blue. Such an opinion as I have expressed is not a prophetic forecast, it is a conclusion reached from the considerations that I have sought to present to Counsel. There are no considerations of that calibre which induce any modification of my view. I have not omitted, to call to the Court's attention any factor or any fact which might alter this statement I have made. There has been no sup- [fol. 915] pression of truth. There are various considerations that might be adduced, and perhaps will be adduced, as to which I think the answer is clear, and which leaves the situation unaltered from the manner in which it has been presented. For example, I have in mind it may be suggested: Well, what about the possibility of Europe absorbing some of this gold? That is an issue which I am perfectly willing to answer if it is desired at this time. If the amount of gold taken by Europe would be such as to reduce

our reserves to the point where action similar to that taken in 1920 was necessary, it would have a tendency to deflation, but one need only face the actual facts and not be frightened off by the "bogie" and appraise that possibility fairly. The likelihood of Europe seeking to restore currencies that have depreciated to one-third and one-quarter of their value, taking the more important currencies, barring England, and to bring down prices in those countries from levels of 300 and 400 and 500 to pre-war levels is out of it altogether, so that even though there should be a restoration of gold standards, it would not entail the requirement of an amount of gold that would have been necessary to restore the currencies to the pre-war state, and in the second place, the restoration of gold standards need not and would not, in my opinion, require an actual export of gold. Two incidents of very recent date illustrate what I have in mind. The bankers syndicate of one hundred million dollars which secured the franc from further collapse, did not entail, so far as we know, the export of a grain of gold. What was [fol. 916] established here was a gold credit. Similarly I believe in the contemplated new Bank of Issue, provided for in the Dawes Plan, the capital of that bank is or may very well be constituted by provision of a gold credit in this and other countries. In short, the re-establishment of gold standards abroad does not mean that paper is going to be replaced by gold Louis and Marks and what not. Paper currency will remain in circulation at a gold value, and actual requirements for gold in the form of gold export will be supplied by exchange.

We have a gold standard in the Phillipines, but no gold is in circulation. The peso is maintained at a gold equivalent. The natives use paper pesos and silver pesos. Does anyone need gold for payment in San Francisco or New York, he is supplied upon tender of his paper or silver pesos with a bill of exchange payable in gold. In other words, the reserves of the Phillipines are kept as gold credits. That is why, on those two grounds, it seems to me that it is fanciful to suppose that impoverished European states desirous rehabilitating their standard are going to squander their substance in buying great hoards of yellow metal when they can much more economically and much more efficiently secure the same results by providing themselves with gold credits.

Q. Now, Doctor, isn't the amount of gold in this country a sort of menace toward inflation?

Mr. Hyatt: He said that once today. He said the *the* [fol. 917] whole situation spelled inflation.

The Master: Let him answer.

Mr. Hyatt: The question has been asked and answered once, and I object to it.

The Master: Objection overruled.

Mr. Hyatt: Exception.

A. The gold that has poured into the United States would, whether we liked it or not, has brought about a higher range of prices if it had been left free to do its work, which is a basis on which a volume of credit is erected. It has not been left free to do its work by a series of devices. The Federal Reserve Board has built up its reserve from 45 to an almost preposterous ratio of 80 per cent. When it got to that point it played out some of it in the form of gold certificates. If the flood of gold should continue, it has all that administrative efficiency, supported by the strongest public and business opinion, can bring to bear that will prevent gold from doing in this country what it has done all the world over at recurring intervals when present in increasing volume; namely, drive up prices. I am not in the councils of the Federal Reserve Board, but I think it is safe to say that no thoughtful banker, no thoughtful man of affairs but is giving the matter the gravest consideration at this time, and has for some time past, in order to prevent an inflation.

Q. Now, Doctor, you have expressed your opinion which of course, negatives the idea or, I take it that it negatives [fol. 918] the idea that there must necessarily be a return after war to the level existing before the war.

Mr. Hyatt: I object to that. That has been asked already and already been answered.

The Master: Objection overruled.

Mr. Hyatt: Exception.

A. It is curious and rather discouraging fact that opinion should have gained any currency. It seems to me an entire misuse of the word "historic parallel." A parallel exists in history because like conditions produce like re-

sults. Accordingly, if we have had one hundred years ago certain conditions present and they produced certain results, and fifty years later the same conditions and they produced the same results, therefore at the present time if those same conditions are present they will produce like results; but if they are not present and, even more, if diametrically opposite conditions are present, like results will certainly not follow.

The two conspicuous and dominating factors after the two earlier wars, viz: The war of 1812 and the Civil War were in the first place, that the country had been plunged by the event of the war into an inconvertible paper currency, inconvertible bank currency in the first war, greenbacks in the second war, and that after the war it became a requirement of the national soundness that the country return to gold convertibility and to do that the only method available was a contraction of the paper currency. After the [fol. 919] present war we were not on a paper basis, we had never been dislodged from a gold basis, and whatever motives might conceivably operate to bring down prices it would not be the condition which impelled that action after the two other wars; namely, contraction of currency in order to restore gold convertibility, that is the first condition. The second condition was that after the War of 1812 the country entered for thirty years upon a period which figures in all monetary history as the gold famine, which came to an end only with the discovery of gold in California and Australia. In other words, there was a shrinkage in the amount of money material. And likewise, after the Civil War, through the operation of the forces which I described this morning, there was an outright shrinkage of the money material, the relative scarcity of gold, that only came to an end with the discovery of gold deposits in South Africa and the Yukon and the demonetization of silver. In contrast to that, the present war has left us at its conclusion not with a scarcity of gold, but with a plethora of gold; instead of this being a period of gold famine, it is a period of gold over-abundance, and again I may say that whatever forces might operate or might be invoked as the basis for an assumption of falling prices, it will not be the inadequacy of the primary money material gold. So therefore I submit that it is apparent that the two dominating

conditions which have brought about lower prices after the two earlier wars were not present in this case, and, on the contrary, were replaced by diametrically opposite conditions, and then besides that we have got the Federal Re- [fol. 920] serve Board. That is a factor.

Mr. Moran: I want to offer the folder in evidence containing the four charts that the Doctor referred to in his testimony as explanatory of his testimony. That is exhibit 80 for identification.

(Received and marked in evidence Plaintiff's Exhibit No. 80.)

Mr. Hyatt: Your Honor, the attorney-general moves to strike out all of the testimony of the witness, Dr. Hollander, on the ground that the conclusions drawn by the witness are argumentative, are unsupported by any sufficient array of facts to adequately determine what the future price levels will be.

I want to remind your Honor of the language of the Court in the case entitled "Knoxville v. The Knoxville Water Company, 212 United States, page 1, where the Court says that past operations, or, to put it in another way, the operations of the past year or of any previous year are of no importance if that year or those years were abnormal unless such past operations and their phenomena show what the future conditions will be.

Now, there is nothing in this record, so far as it is outlined by the witness, which in any way indicates what the future conditions will be, except in so far as the facts that obtained subsequent to the Wars of 1812 and 1861 are concerned. Moreover, the testimony of the witness is that at the present time the total gold reserves bear a ratio of 80 to [fol. 921] 100 in the amount of assets available in the Federal Reserve Bank. The witness admits clearly and frankly that that is about 40 per cent over and above what is normal.

Generally speaking, the entire array of facts adduced here in this plaintiff's Exhibit 80 conclusively establishes that for the last five years we have been dealing with a purely abnormal period. On those grounds I urge your Honor to strike out all the testimony of the witness, and this Exhibit,

Plaintiff's Exhibit 80, as incompetent, irrelevant and immaterial.

Mr. Ward: I will join in that motion.

The Master: Motion denied.

Mr. Hyatt: Exception.

Mr. Ward: Exception.

JACOB H. HOLLANDER

Cross:

The amount of gold reserves was not 80 per cent. of the total available assets held by the Federal Reserve Bank. It is a ratio to the liabilities represented by member banks and by the volume of Federal Reserve notes. It stands in the relation to the Federal Reserve Bank's liabilities that the reserve of a member bank would to its liabilities. The central Federal Reserve Bank would, as to the holdings that they had of the subordinate member [fol. 922] banks, regard those holderings as assets. It is not usually so stated that the gold reserves held by the Federal Reserve Bank represent 80 per cent of the available assets. Reserve is usually characterized as a ratio to liabilities, not to assets. My statement is that the reserve ratio, which represents the proportion of gold to the liabilities of the bank as represented by their outstanding note circulation and by the deposits of member banks in the Federal Reserve Banks, is such and such a percentage. In other words, it was approximately 80 per cent.

The reserve requirements prescribe a minimum below which prudent banking would not go. Conservative banking would build the actual reserves about that. Eighty per cent, represents a much larger reserve than even conservative banking would require, and that fact is fully recognized; but no alternative has been at hand other than those which I have indicated. The gold has come into the country; the importer through his international banking firm received it; he deposits it with his bank; the bank takes it to the Federal Reserve Bank, and it finds its way then into the Federal Reserve Bank's reserve. This augmentation has not been through any exercise of policy by the Federal Reserve Bank. It has been merely the passive reception of an influx; that condition that we have just talked about is

an abnormal condition, and against good banking practice. If by "abnormal" is meant unusual, but not abnormal in the sense that it is momentary. It is a consequence of the [fol. 923] gold production and the flow of that gold to this country. As to the natural course of events tending to reduce that percentage of gold reserve from 80 per cent back to about 40 as time goes on, it could only come about in the two ways that I have discussed. The one would be by an enlargement of the volume of credit which is built up upon this gold, so that the percentage would drop, or through a stoppage of further gold influx and an outward movement of the gold; one or the other of those two possibilities, or devices that might be conceived using some additional part of it for circulation. But there it is. An expansion of the credit would mean the very thing against which these precautions were taken; further money supply and higher prices. Money at all times is used as a standard for what we call deferred payments and the desideratum in all deferred payments is to get a medium of exchange which will be the least variable possible, so that the debtor will not pay any more to the creditor or the creditor will not receive any more from the debtor than that to which he is justly entitled. This situation which has been described, which I suggested a moment ago, would tend to be cured by reason of the fact that the creditors of the country would seek to deplete that gold reserve so as to secure a better return for the loans that they have had outstanding over a period of years, but the debtors, unhappily, have something to say in the matter. In the history of banking and regulative policy, I suspect, that the debtors representing an agricultural community and the working classes generally and the public wage earners have not been silent. It [fol. 924] is the history of the thing, that the creditor class has been able to protect itself pretty well, with some few exceptions, in obtaining back from its loans a fair equivalent of what it has given out. There are two very good illustrations at hand. The one is the movement in England, where all the force of centuries of commercial traditions urged them to reestablish the sterling value of their pound. That process working in the only way in which it can, through a contraction of the outstanding currency, brought

up the pound from 3.60 to 4.60, and above. There it stopped and the dominant opinion in England, I think, sir, is that the acute depression with its curses of unemployment, were a consequence of this rapid deflation. At any rate, deflation sentiment has gone and the policy that prevails in England is that the restoration must be a very slow, gradual process of growing up to it, if at all. The other striking example was in Czecho-Slovakia, which under very courageous financial leadership started in to deflate their currency and to bring up the value of the krone*n*. The sequel of it was an acute business depression and a reaction that has put an end to it. To say to a country that we propose a monetary course which will make the burden of debt—not merely of commercial debts, but these staggering mountains of national debt—which were contracted in say 66 cent dollars, paid back now in one-dollar dollars—in other words, that we will give you a dollar and a half for every dollar, is something which only dates back to the limited period when people did not understand it, and there has been this tremen-[fol. 925] dous process of enlightenment as to what inflation and deflation mean, so my own opinion is that the creditor class is more likely to be on its toes to prevent itself from being, as it calls it, "despoiled" by inflation than the contrary course and it would be very glad indeed to compromise and has taken the position of price stability. That is the expression of all of the organs of business opinion which we see in financial and trade journals, except in those particular lines where there has been a depression below the level. Insure us of price stability; that is all we ask. I understood in a way that there was some ferment among the silver producers growing out of the termination of the Pitman Act arrangement. We bought so much silver from the silver people at a price practically double the market rate; but its relation to this problem is that it is piling Ossa on Pelion, as though we did not have enough gold for basic money material, now it has come to play to add silver to it. That is so, because in this Latin Union that I spoke about, which came into existence in 1821 and lasted until 1850, they kept a parity between gold and silver by using first the gold and then later the silver, so that when they used the silver gold would be out of circulation, and when they used the gold, silver would go out of circulation. That

situation would obtain but if you will remember the life and vitality of the bi-metallic argument and the Latin Union was precisely in that interval in which the gold of California and Australia had been absorbed, as it were, and we had not come to new sources of supply. In other words, it [fol. 926] was of an insufficient money material, if we relied upon one metal alone, that furnished its support. I speak with some feeling on the subject, because I was Secretary of the Wolcott Bi-Metallic Commission that went to Europe in 1897 to endeavor to establish an international agreement. After various conferences, it failed, and though the time had been fiendishly arranged, while we were negotiating gold was being produced in this large new volume in South Africa. So that as soon as von had increased gold production, all the wind was taken out of the Bi-Metallic agitation and we never heard anything more of international bi-metallism after 1897. Bi-metallism never contemplated taking gold out of the circulation, that is, not failing to recognize it, but in failing to use it, but the purpose of having gold and silver was this: That you would not be exposed to the monetary embarrassment arising from the use of only one metal, from the fact that at intervals that one metal gave out. Then you would have two strings to your bow. It was not contemplated, however, that you could hop from one metal and demonetize the other. You were to use the two metals and they were to operate as a compensatory pendulum. When the gold production gave out here, you could use silver; when the silver production gave out you could use gold. But the prospect that you hold before me is that both of them are present in abundance. As to the banks and this Latin agreement—what happened was that gold went to a premium as compared with silver, say. Why did it go/ to a premium? Because it was scarce. If you have 16 to 1, say, as the official ratio, and the ratio [fol. 927] goes to 16½ to 1, it means that the gold has become scarcer and therefore it is worth more silver than before. But, as a matter of fact, on the carpet, I mean, considered by those who go ahead of what is prudent financial discussion is the possibility, not of re-monetizing silver, but of demonetizing gold. There has been a striking inelasticity about the consumption of gold in the arts. Barring some development of a new technical use for it, it pos-

sesses a high inelasticity of demand. So much is used and the fact of its cheapening does not very much stimulate. There is a certain rigidity about the amount that is used in industry and in jewelry and so on. The only element really that fluctuates very much is, I should say, that drain to the East, but that not very much. That is the drain to India about which I spoke. Sometimes when India is very prosperous and the crops are good, why, then the native princes can tuck away more, if that is the explanation of it, but it is within pretty definite limits.

We received in the last few years five hundred millions of gold from abroad. Now, barring some unfor-seen circumstance of a different kind than is now on the horizon, that means that the gold produced in the United States was equivalent to that which the arts required. That the gold that went to India represented an amount equivalent to that which was released from the reserves of Europe. A certain amount still tucked away in old woolen stockings and chimney corners, and so on. The new gold, the South African gold, comes to the United States, practically, that [fol. 928] is what takes place. You would not imagine, that a possibility might arise here substantially where there was a very much more extensive use of gold generally than that which exists at the present time. I think that that is unlikely as far as the enlarged use in the arts is concerned. It partakes a little of the state of mind of Robinson Crusoe or of King Midas, but the possibility which might exist is the replacement of other forms of currency by gold certificates; but you could see the outcry that would be raised. Let it be supposed to substitute gold certificates for national bank notes. Immediately the banks would say "What will we do with our 2 per cent bonds that we have as security for them?" Let it be supposed to substitute it for the greenbacks. "Oh yes, get rid of the sole source of non-interest bearing currency that we have!" Let it be supposed to take away the silver and the silver certificates, and the mining outcry is at once apparent. That is a conceivable outlet, but it is not very much encouragement ahead, it seems to me. Personally, I think it is a very desirable thing and an ideal time to unify our entire monetary system on an actual gold currency basis, but my desire in the matter cannot blind my judgment. As to the

volume of gold, there is not any field which I can imagine now whereby this volume available and on hand in the United States at the present time would be necessarily depleted to a large extent within the next three years. I [fol. 929] do not see anything of that kind. I do not wish to construct a picture of the old dilemma—an irresistible force meeting an immovable object; I do not mean to suggest that we are going to continue taking gold and yet we are not going to allow prices to go up. If we continue taking gold, some very radical change is necessary to prevent prices from going up. Now, that radical change might take the form of the unification of all our money as a gold currency. It might take the form of an embargo on further imports of gold. It might take the form of closing the Mints to gold, but, those are monetary changes of so radical a character that it does not do to underestimate the resistance which they will encounter.

I am familiar with the so-called Dawes Report that has been recently issued by this Commission of Experts from the United States and from France, and have noticed that they recommend the establishment of a bank to negotiate the necessary credits and to take care of the financial needs of Germany at the present time. I have also noticed that Germany has accepted those conditions. As to its going to very seriously affect our gold supply here, if Germany calls upon us to loan them a sum of money to provide necessary credits for business and to pay these reparations to the French Government, I made some reference to that. The capital of the proposed bank I believe is eight hundred million gold marks, $200,000,000 of which the United States in accordance with the plan was to provide half, $100,000,000. Suppose that entailed an actual physical boxing up and shipment of gold to it. It doesn't entail that as a mat- [fol. 930] ter of fact. Suppose, as I say, it did entail an actual physical boxing up and shipping of gold. That is less than what we received in the year 1923. But as far as I have been able to examine the plan, it did not contemplate apparently a shipment of gold, and I think it very unlikely will. What it does do is to provide that the reserve is to be maintained as a gold credit, whether in the United States or in England—probably in both. Because what Germany will need from the establishment is a stable

gold exchange, an ability on importers upon tender of the new marks to secure the means for payment of purchases made in the United States or in England, and so therefore a provision—I do not mean to say that this is the plan, but I should imagine it would be—whereby this capital shall be maintained, not in the way of impounded gold—what good does that do them—but in the form of credits in free gold marks against which the German bank may draw in terms of gold; but the gold has not got to be there just the same as it has to be in Washington, not quite, for this reason; if it is a gold credit, the actual amount of gold that is segregated for that purpose is a mere reserve percentage. Suppose there were lodged for the benefit of this project in New York banks one hundred millions of gold credit, those banks would not lock up one hundred millions of gold dollars, they would merely hold against that the usual gold reserve requirements in the form of gold. The usual gold requirements might be perhaps not more than 12 or 15 per [fol. 931] cent. I do not suppose Germany would absorb that by buying goods in this country. It would be a revolving requirement. Against that reserve, you see, she might emit a very large volume of credit. She might create that. I hesitate about carrying on my argument, because it is dipping into possibilities, but I think the essentials are these—that the maximum would be an inconsiderable withdrawal, and even that inconsiderable withdrawal, is not likely to take the form of a physical gold shipment or impoundment. Germany's issue of paper money is largely due to the over-issue of paper. They overissued the paper, not to meet commercial requirements, but to meet fiscal requirements, because the printing press replenished the treasury more easily than taxes alone could. It is not true that just the same as the United States in 1812 and just the same as the United States in 1862 and 1863 issued paper money, that German paper was issued, because of the scarcity of gold. I dissent from that. They issued because Secretary Chase thought it was the cheaper way of filling his treasury. The greenbacks were issued as a mode of paying for war materials, it was easier to issue greenbacks than to tax or float bonds, and every country of Europe that has been caught in the flood of fiat issue was caught by financial, fiscal requirements, not by com-

mercial. After that flood of paper money which the treasury issued had gotten into circulation and prices had gone up, then in order for merchants to secure adequate facilities they had to borrow more. The thing, you see, moved in a vicious circle. But the initial step has always been in war [fol. 932] time the lack of sufficient courage or ability of its finance ministers to supply the sinews of war through taxation alone, and they have recourse to the easier device of paper issues. That was true from the days of John Law and the Assignats and the Continental currency, all the way down to Germany and Russia in our own day. If the total amount of the issue is in excess, it is true just as soon as the Government issues paper money to a large extent it tends to drive out of circulation all gold that there is in circulation. The issue of paper money in excess would lead to the gold either being hoarded or being exported, so that it would produce a scarcity, in any event, of available gold for war purposes or for any purpose whatever, if the issue of paper money is excessive. In 1812, the Treasury said "Now we will issue non-interest bearing evidences of debt, promissory notes." and the treasury did that; and just as in this war, the English issued the Bradburys, the treasury notes there, and suspended the English Bank Act and let the Bank of England issue additional notes without the deposit of gold, in war time, I think it has always been in the first instance the—I say in war time the dominant cause of paper money being issued has been the [fol. 933] fiscal requirements. If the first reaction on the declaration of war, I ought to know because I was caught in Belgium at the outbreak of the war, was that the metal is hoarded, disappears from circulation, and there is a great scarcity of currency, still the replacement of that does not take very long. As a matter of fact, in Europe for months before the outbreak of war there was no gold in circulation and you could not get it, it was being impounded in the banks, and remained there. England was the only country in Europe where gold was in circulation during 1914, the early parts of 1914. Over here we have a volume of gold. Money is only a medium of exchange, and when you say that a yard of cloth is worth a dollar you are only expressing its value in terms of money. In other words, gold is simply a means that civilization has adopted recently to

get a ready understandable way of expressing value, so when you speak of a dollar having a certain purchasing power, you do not mean anything except something that has relation to some other fact. For instance, you have to get a basis for your determination and you say that a dollar has declined in purchasing power 40 per cent in ten years. You only have something relative if you take a base line of 1913 and by the most careful method assign the value of 1 to that base line, you do that simply to get a basis of measurement, but in determining that value of 1, as far as I can see ahead, you are only adopting an arbitrary thing, there is nothing sacrosanct about the figure 1, that is your unit and only your unit for measuring a particular thing.

[fol. 934] If you study 1913 you are only studying from a standpoint to determine its relation with respect to something else. This is the situation, if I might modify it a little. Where you have, say, six different textiles and suppose those textiles were in consequence of some high sensitiveness to atmospheric temperature likely to expand or contract. You would record their measurements by a yardstick, and one yard, three yards, five yards would indicate the relation which exists between the yardstick and the commodity, the textile, but, the yardstick might fluctuate, and the textiles remain unchanged, so your relation immdiately has to entertain the possibility that your units of measurement are not invariable. If you found that your yardstick had changed so that instead of having 36 inches it has 24 inches, would you deem the equities of the case were realized by selling at two yards two of these—forty-eight inches. It seems to me that there would be force in your presentation if the matter were left to the play of the winds. For years and years the world went on knowing that yardsticks and gallon measures were liable to expand and contract and that that meant unjust weights and measures, and they shrugged their shoulders and said, "well, inevitable, and one year makes up for another." But one fine day they awoke and established a Bureau of Standards which said, "We will with the utmost provision and facilities of science establish a definite unit and preserve it intact so that a yard and a bushel shall mean the same thing invariably." [fol. 935] That is what is in contemplation with this new instance that the monetary unit shall be stable and which

takes the form that when we have undergone as remarkable a change as that which I have discussed and then it shows this tendency, that tendency is encouraged. Let us take a concrete form, the proposals to which a good deal of attention has been given, that the compilation and maintenance of this index number of commodity prices should be transferred to the Bureau of Standards, so that the same assurance should be given that we will have a stable unit of purchasing power as we do of extension and weight, and what my argument had in mind, was that since we have through the events of the war undergone a shrinkage and suffered penalties of variation, and worked out, for a period of such and such, relative stability, and in view of all these other factors, it seems to me we ought to recognize we intend to keep it. Gold is a commodity just like potatoes and beans and all other things that are subject to supply and demand.

If you went down to the assay office and purchased 500 pennyweights of gold or 2,000 grains of gold, speaking now about weight, you would not find the price different on different occasions. It would always be the same price as long as the mint stood open to the coinage of so many grains of gold into a dollar freely. Why should a variable price obtain? Suppose you went to the assay office with this volume of gold that prevails at the present time, you would not find the price of gold any different for 500 pennyweights of gold today than you found it five years ago. If you took gold and bought gold you would get the same [fol. 936] amount of gold as you took there; six has a habit of being a half a dozen all the time. The market value of gold is determined by the fact that the mint acting under the law of the land, declares that he who brings me at any and all times so many grains of gold brings me a dollar, and instead of carrying this gold around in a little bag I give it to him in an ingot and will not charge him the expense of coining it. Assuming a state of fact merely that deal with raw gold, it has a variation in market value, in terms of commodities, and that is of course the argument that I have been raising. A certain amount of gold today will command one-third less commodities at the wholesale prices than it did in 1913, I mean general purchasing power, so that you have, if you take your gold into the mar-

ket place and wanted to buy goods with it, the result that you would find it needed 150 units to buy it instead of 100, because your units were worthless. But if you took it to the mint you would get for the gold which you took in the form of bullion or of bars the dollars, or if you took dollars you would take it in the form or you would get the same amount of bullion, or any other form. As comparing the present with 1913, the value of the money unit, which is not exclusively gold, has changed. The gold changes in terms of value only. If on one hand is a large volume of gold with which to do business and on the other hand a large volume of commodities, and the volume of commodities remains fixed in value, but the gold on the other hand de- [fol. 937] clines in value, I mean if you have a definite number of commodities, those particular commodities might be subject to changes. They may have gone up or they may have gone down, as compared with any other thing. Cotton may have gone up and wheat may have gone down. Clothing may have gone up and agricultural products and hogs may have gone down, but you take an adequate expression of general purchasing power, which means all commodities, in the sense that a dollar is a blanket check on the universe in making the index number.

Suppose you deal in commodities, and are out to deal in automobiles and get gold for them. The only way in which such a result, as to the value of the commodities also changing, would be by shrinkage in the amount of commodities and an unchanged amount of the gold, in which case prices would rise, or an increase in the amount of the commodities and an unchanged amount of gold, taking gold in the larger sense, in which case prices would fall. But when you have this evidence spread out before your eyes of an increase in the amount of gold and the conversion of that increase by multiplication into a great credit volume, then any question that all goods had increased or can increase to an amount sufficient to mop that up becomes a mere dialectic. If you have only a small quantity of gold with which to trade and there is a tremendous supply of commodities under those conditions you undoubtedly can [fol. 938] get more for your gold, and if you get a larger volume of gold and a small amount of commodities, it is true that the purchasing power of that gold tends to be-

come less and less. The value of the commodities purchased changes in terms of gold. You are comparing all commodities with one commodity. You are comparing 404 commodities with gold. The law does not change if you take one or a dozen, but the responsibility does. What has been the factor responsible, the change in the commodities or the change in the gold? We have the evidence before our eyes, this colossal increase in gold, and why close our eyes and go hunting around for the other explanation. There has been no shrinkage in the production of commodities. On the contrary, we find that commodities are produced in peak proportion, so that the explanation of a rising price to scarcity must be dismissed. We have seasons here every once in a while of what we call overproduction unassimilated goods, undigested goods; this goods and that goods but until the world reaches a state where everybody has too much of everything we will not have general over-production. We do have overproduction at times, in particular commodities. We have overproduction now in wh-at and under production in cotton. The price of wheat tends to decline and the price of cotton tends to rise and that is why I confined my attention to wide ranges, with the confidence that the irregularities of specific commodities counteract one another. These things, of general over-production at times and under-production at times, or under-supply at times and over-supply at times prevail in particular com- [fol. 939] modities, but not all commodities, and for that reason to argue as to cotton, automobiles or wheat is to get into traps, and it is only by taking this large range of commodities that we eliminate the variation from the com modity side and get to the variation in the yardsticks.

As for France, prior to the War, having a system of retiring its volume of Bank of France Notes so as to hold it if possible at a fixed ratio to the volume of business done is concerned, only in so far as prudent banking seeks to accommodate the volume of credit fed out to the business needs of the country that may be. As to their having a system over there of automatically retiring after, the crops were harvested—automatically retiring the Bank of France's notes, so as to deflate the volume of currency available for business purposes, I have never heard that expressed in any other form except that they possessed the stability

which we lacked and which was one of the causes of the agitation for currency reform, elasticity of currency and credit; so for crop moving purposes, they could feed out additional circulation and when the crop requirement had passed they could contract it; and that you will remember was the underlying motive of currency reform in this country. That is the underlying motive for the establishment of the Federal Reserve Banks. The Federal Reserve Bank was a combination of a series of problems growing out of that. England and also Germany had also a similar system. With reference to this fixation of the volume of currency available for the needs of business, to fix it so that [fol. 940] it will have a certain definite ratio, as near as possible to the needs of business at all times. The Federal Reserve Board has avowed that that is its purpose. It does not say that we proposed fixing prices, but it says that we propose to adopt the supply of credit to the business requirements of the country. Then it says that we have noted prices have been more stable or are approximately stable for a period of a year or more, and from that the very justifiable inference is that although the Federal Reserve Board is not going to proclaim or even admit that they can fix prices because of the political consequences of any such thing, what they do proclaim is that we will supply credit in proportion as required by the business needs of the country, and that means price stability. It is my opinion that the object of doing all that is to prevent inflation. I think, answering the question that if volume of currency available for the needs of business is maintained on a conservative banking basis, then the charge of trying to fix prices cannot be leveled against the Federal Reserve Bank or any other institution that attempts to so regulate the volume of currency to the needs in a little different form but without departing from its spirit, the Federal Reserve Board by enunciating that policy puts into force its effectiveness in preventing the natural consequence of this continuing gold importation. In saying that we will not allow in so far as we can prevent it additional credit to be supplied beyond the requirements of business, they say that when gold comes in, instead of acting as the basis upon [fol. 941] which credit is advanced, we are not going to do that if the business needs of the country do not require it,

and the business needs of the country call for stability. We argue back in a circle that the business condition would find for control and point toward stability. It certainly is an abnormal condition where the Federal Reserve Bank had 80 per cent of gold reserves to the liabilities of the subordinate member banks, and the Federal Reserve Bank would never have deliberately done that. It has been in compliance with that evident policy that rather than encourage additional credit being emitted and bring the reserve down to the usual banking proportions, we preferred to develop this seemingly wasteful process of accumulating that 80 per cent reserve and keeping the credit volume within restraint. That we keep the credit volume in restraint was very well exemplified in 1923, just a year ago, when the credit volume started to enlarge and when prices showed therefore a tendency to rise. The Federal Reserve Board through this seemingly mild action, but most effective, said no, and the looseness was checked. That the Federal Reserve Board keeps the prices in restraint when it has a situation where it has 80 per cent gold reserves to the liabilities of the minor tanks exercises no effect. You see, in building up the amount of reserves you are simply building up the gold apex. You are not building up the sides of the pyramid. Suppose they received another great influx of gold. You might have the reserve amounting to 100 per cent. What it would do would be to add dynamite [fol. 942] to the situation. You would have the possibilities of credit inflation but the mere augmentation of the reserves unaccompanied by any expansion of credit does not add to it, and that is what they adopt you see. If you have a considerable portion of the supply of commodities that you want to sell, that fact might tend to make you ask more for those commodities than you would if that ratio of 40 per cent to the liabilities of the subordinate or member banks existed. You might feel that way, but I do not think your state of mind would bring a higher market quotation. It is like looking at cheese in a showcase, it looks cheese but it does not have much effect on your constitution. I mean to say that is a fact. It might of course, induce you as an individual, who knew that, to maintain a stiffer position, but as against that your neighbor would say, what of it, they have got instead of one room full of gold two rooms full of

gold, they do not do me any good, they do not issue any more credit, there is no more money in circulation, and instead of announcing they have only got thirty or forty or fifty or 60 per cent, they announce they have 80 per cent, well, they might have a hundred they might have 120 per cent, but there is no more of it in existence, it is simply locked up. Suppose you represented the Farmers Grange men and wanted to sell the commodities of the farmers, this fact that you have this large and considerable portion of the supply of commodities of the farmer to sell—the price of that does not have any effect in the matter of credits [fol. 943] available to you to negotiate and dispose of that business by that situation and for the very reason that it does not have any effect, the form which it takes i/ a very violent demand from the farmers that there should be a reduction in the discount rate, and that the Federal Reserve Board should be reconstituted with dirt farmers so that gold, which is there harmless or ineffective, should become the basis for that enlarged volume of credit. The farmer is not aided in the least, he thinks, by the presence of the gold, he wants the gold put to work. I think that is one of the grave problems which the country faces. The farmer is seriously embarrassed because he has not adapted himself or been able to adapt himself to post war conditions. He is still operating under the effects of the expansion of the war years, he is over producing as far as wheat and livestock go. I would like to make that very clear, that in dealing with the commodities you are dealing with a great range of things. My usual illustration is the level of the sea. You speak of the level of the sea. The sea is not like that (illustrating), it is made up — crests and troughs and when you speak of purchasing power you are speaking of the average command of a dollar over this wide range. Some of them, owing to variations which are peculiar to them are above the level and some below the level, and that is why it is necessary to get a picture of the change which has come over your yardstick, over your gold, to take so large a number that the individual irregularities will tend to counteract one another. The price of cereals and meat [fol. 944] products are below the general price level. The farmer will adjust his production to its proper dimensions in relation to the other productive interests of the country.

He should lessen the supply of corn, oats, rye barley, wheat et cetera. That would have a tendency to raise the price of those commodities to the ultimate consumer. I should say, that whenever a group of producers have produced an amount greater than the market can absorb so as to afford a fair remunerative return, then it is desirable in the interest of society that that production be curtailed to its proper relation to general production, even though those who have profited by exploiting this over-production have to pay a higher price for it. The farmer should not be controlled by this excess volume of gold reserves; he should be controlled by avoiding an over-supply of the commodity that he is to furnish but he is not to be controlled by this over-supply of gold reserve on hand at the Federal Banks, and that is what he is controlled by. I know that and you know it. I think it is a good thing, and you think it is a good thing, but the farmer doesn't think it is a good thing. He thinks a good thing is for the amount of credit to be increased so that his prices shall return to where they were before, not through a curtailment of the supply but through an increase in the amount of money, and that is the explanation of the agricultural Blocs and the extension of the War Finance Corporation—the rehabilitation of the War Finance Corporation and the entry of two dirt farmers on the Federal Reserve Board and the general demand of [fol. 945] the *of the* farmer for increased credit emissions, and that is one of the elements of danger making for increased inflation and for weakening this regulative control of the Federal Reserve Board. The farmer says dollar wheat is not a fair profit, dollar and a half wheat, or whatever it may be, is. He is certainly clamoring for higher agricultural prices and his whole bitter indictment of the Federal Reserves Board policy in 1921 was directed—it is the same story, it is the crime of 1877 outcry, it is the greenback outcry the farmer is always inclined to seek relief for low prices by the emission of additional money or credit, and in a community, in a nation such as this, where the farmer exercises the tremendous influence politically and otherwise, he must be accounted as a force making always for inflation and bitterly opposed to deflation. The extension of these credits to the farmer that he proposes would tend to create inflation or it wouldn't tend to decrease this

gold reserve that they have, but it would decrease the bank deposits, the lending power of the banks, it would make it possible for him to—what he wants is to be able to carry the land which he bought under the high level of prices and to hold his crops from the market, dumping more counters on the board. This so-called efficiency of the Federal Reserve Bank and public opinion to control the natural laws surrounding the facts incident to an excessive gold reserve would have a hard fight on hand to maintain stability as against rising prices. A gold influx does not spell deflation, and I do not see any tendency, anything at [fol. 946] all in the factors—I am not prophesying, I can only form my opinion, upon the factors that are at work, upon the forces that are at work, and I do not see any force at work that suggests its deflation, not even in the Dawes Plan.

[fol. 947] Kings County Lighting Company

Brooklyn, N. Y., April 16, 1924.

JACOB H. HOLLANDER

Cross:

When I said that the farmer had a tendency to over-produce their commodities, that they tried to get the Government to extend credit to them as a class beyond the fixed rules of the Federal Reserve Bank, I think what I meant to say was that agriculture had not been able to readjust its production to peace time conditions and the excess product forced upon the market would lead to a lower than normal price and that if credit could be extended so as to save the necessity of forcing it upon the market relief would be given, and also land that had been bought on an extensive scale in the belief that this war level, two dollar and a half wheat, was going to continue, and the problem of paying for that was plaguing the farmer. The farmer has a tendency to over-produce his commodities at the present time, only in the sense that he can not or is not willing to reduce a war-time production to a peace-time basis. In other words, the demand of the war-time condition has passed forward into the peace-time demand. Experience shows that in indus-

tries there is a quicker curtailment to the new requirements, losses are taken more promptly. The reaction of 1921 tells the story of what took place in industry generally. The farmer is slower. It is undoubtedly true that the factors in the situation with respect to the manufacturer are more mobile and more susceptible of handling than the factors that prevail in the case of the farmer, and with that I should say [fol. 948] that the manufacturer's habit of mind lends itself to greater readiness to take a loss, but nevertheless he has a tendency also to make a mistake in the factors, that will accrue on his product at some future time, and sometimes, especially in manufactured goods like clothing, he very often over-produces the market. That is true also of automobiles, as far as I am acquainted with the technical conditions.

There will be periods in the iron and steel trade in which the momentum of an expanding industry of this, that or the other runs ahead of the consumption, but in industry, especially in corporate industry which develops a very effective organization for testing the market, as soon as there is evidence of a production greater than is being absorbed curtailment is put into operation. In both of the industries to which you have referred, I think a very brief interval elapses between the first sign that consumers are not absorbing the full output, a very brief interval elapses before production is curtailed, and more and more is that interval being reduced as industry has developed these means of ascertaining what is the course of demand. It seems to me that industry in the United States is developing along wholesome lines. We are witnessing large units of production in order to secure the benefits of large scale economies, and at the same time there is a very wholesome respect for the provisions of the law of the land as to monopoly, so industry is steering I should say a reasonably sound course between that degree of large scale production which is to the advantage of society because of its economies, without expos- [fol. 949] ing society to the oppression of a monopoly. We had a certain state of affairs prevailing in 1913, which is the index year to which I refer, and also from which I took my graph movements. As to the fact that we have tended more and more to monopolies in going into large scale production so as to in any way affect the figures which I have

devised here with reference to 1913, I should hesitate to assent that the concentration of industry had gone beyond what it was in 1913, but after all the development had been marked in 1913, and if anything I believe industry has stood more or less apart since then, but even if it were I do not see that it would effect any appreciable change, 1913 was selected with a great deal of care by the Department of Labor and the result is not very different if you select any other year. It would merely show that the peak might not go as high and the drop might not go as low. The relative difference would be the same. It is as though you measured a table with a foot rule or a yardstick. If you took a year like 1907 as your base line that would be very unfair as showing how much the dollar had declined in value. 1907 was the year of the panic and prices instead of being a hundred, as in 1913, they may have been very much lower than that. I do not know the exact index number so your 1924 dollar might be only 40 cents as compared with 1907. That would be distorting and abusing statistical reason. 1913 was regarded as a typical base line year. I know nothing about the details of the volume of money prevailing in 1913 to the volume of commodities available for purchase, only [fol. 950] that such ratio would be represented by prices of 1913. As to whether the ratio that obtained between the volume of money available for business purposes and the volume of the commodities available for purchase to being normal about that time, whether there was any inflation about that situation, either inflation in commodities or inflation in the available volume of money for business purposes, I would say that if Chart No. 3 is examined you will find that in 1913 there had been already an upward movement. That only shows it in a general way. It is an accurate way but it does not show it month by month, but in fact the 1913 prices were higher than the 1903 prices, for example, so that 1913 is really a very favorable year for your argument, if I may characterize the view which you take. What I wish to emphasize is that 1913 was not an unduly low year, so that in contrast with it 1924 prices stand up as very high. As a matter of fact, 1913 was really the highest point prices had reached for a generation. I don't understand what Counsel means by normal. I would not say that in 1913 there was any inflation of the commodities available, or over-production, as compared to the volume

of money available for purchasing purposes. The significance of the testimony which I have given is to ascertain, or is to emphasize that dollars mean purchasing power and that a certain number of dollars in 1923 require 50 per cent more dollars than 1913 to secure the possessor the same purchasing power. As to the ratio of the purchasing power of that dollar to any particular commodities in which the plaintiff deals and also has for use, being different from the [fol. 951] general ratio that obtains with reference to all commodities, is a question that must be directed to the engineers of the company or to engineers. An economist is concerned with the matter of general value. If a particular commodity departs from the general movement, it is a momentary departure that is corrected with the adjustment of production to that. In the matter of labor there is a certain correspondence to the general price level and beyond the general price level. The actual history of a specific price of a commodity that figures in this industry is the concern of the engineers, not an economist. The price level is as real as the sea level. There are billows and crests, but we know precisely what we mean by the sea level and it lies at the basis of much engineering computation of the most practical importance. The following is exactly what happened in the matter of gold:

The shells of the Long Island Indians were used as money, a certain colored shell would have a very high value as compared with a darker shell. When the white man came here he discovered that these particular light colored shells had [fol. 952] a very high value as compared to the dark colored shells and he began to manufacture the lighter colored shells in large quantities. That affected the purchasing power of the shells. The world has dumped gold into the United States—instead of red, being yellow. Leaving the question of the government and the regulation of the Federal Reserve Bank, I don't think the increase in the amount of available gold for purchase has become so great that it is very difficult to determine as a fixed thing this so-called price level. We are familiar with the increased use made of it, even in the matter of wage adjustments. Very practically business men and concerns realize that it is an equitable thing to correct wage payments with regard to the reduced purchasing power of money, and in some cases that is made automatic and reliance is had upon the index num-

ber for that purpose, on the theory that if the index number goes up ten per cent, wages should go up ten per cent, not in order to give more wages, but because the ten per cent would prevent wages from being reduced. The index number is not a highbrow refinement. It is a very widely accepted now as an instrument of precision which the business world is using, with respect to other uses besides wages. I think in the matter of specific production, a manufacturer would very likely feel that if his prices showed a variation different from that of the index number, that he was out of line with respect to production. [fol. 953] Every financial publication, every competent discussion of it, uses the index number of commodities, just as it would the temperature or anything of that kind. Every bank bases its discussion upon the subject; every trade journal uses it. It has become as integral a part of trade equipment as any accredited instrument of precision. I am very familiar with the work that has been done and is now being done by Professor Irving Fisher of Yale. I know very definitely what his plan is, of course, not particularly with this gold reserve, but with the general question of increased gold supply. His plan is not the recommendation of the gradual demonetization of gold, precisely. It is the increased gold content of the dollar. He also recommended that the amount of gold which constitutes a dollar should be increased or reduced in order to maintain price stability. He is a recognized student of the matter. I should attach very great importance to anything that Irving Fisher said on the subject of prices and price levels. I should attach great importance to anything Professor Kammerer said on the subject. Professor Kammerer is engaged with the Dawes Commission abroad at the present time so he probably has made none. I know what his views are, however. He was a bitter opponent of inflation and deflation, as most economists were, and a strong advocate of price stability. He was opposed to the inflationary measures. At the present time, I cannot venture to say what I think his position would be. He has made no recommendations as far as I am aware. Professor Kammerer has been serving with the Dawes Commission and has not [fol. 954] expressed himself, but Professor Fisher has, and I should like to read a dispatch from New Haven, April 6th, that appeared in the New York Times of April 7th, and I

think it is without any question a correct and authentic statement. (Reading):

"Professor Irving Fisher comments thus on the movement of prices during 1924 to date:

"The general trend of prices thus far this year has been nearly horizontal, even more so than last year. The slight upward flurry in February subsided far more quickly than the corresponding movement last year. During March there has been a rapid fall.

"As to the future, there is no lik-lihood of any extended fall of prices. The danger is all the other way. If the banking world should yield to the clamor for a 'more liberal credit policy'—that is, for a greater utilization of our big gold reserves—we shall have inflation.

"But this can be avoided by a firm banking policy. The public ought to be reconciled to the policy of keeping our huge gold hoard out of harm's way, in view of the fact that much of it came from abroad in exchange for American securities, and may at any time be demanded of us again. We may think of it as partly a trust fund for Europe."

That represents, I would say, what Irving Fisher would state, and I think quite independently it is exactly the view which I set forth yesterday, that all the lines were set for rising prices, and that only administrative control and bank-[fol. 955] ing policy will prevent that rise from taking place, and that the lik-lihood, in so far as these two forces can be appraised, is therefore for stability, with whatever uncertainty there is pointing in the direction of rising prices. When this Dawes Committee has had its report acted upon by the various governments affected and the United States accepts the report as well and an effort is made to carry out the provisions of the report, I think very likely that the European governments will eventually resume specie payments. I think what Professor Fisher says that we are holding this enormous reserve as a trust fund for the benefit of these European nations is a very good way to describe it, so that we will not be tempted into using it as a trust fund for ourselves. In the meantime the existence of that enormous reserve is something that may be uncomfortable while we have it. I do not venture to express an opinion as to its permanence. I should try to avoid in-

dulging in prophecy in regard to it. I know Professor Mitchell very well. I think he has made no recommendation with reference to that, but he has expressed himself in the clearest and most unqualified way as to the wisdom of stability. That he made recommendations similar to Professor Fisher with reference to the gradual demonetization of gold, I feel I must say, is the wrong term to use and a wrong inference to draw from the term. What he would mean is that assurance against any further mischief making possibility of new gold, much safer than merely impounding it, is to take this additional amount and say it is needed as a supplementary content of the dollar, but nothing of [fol. 956] that justifies the conclusion that it is to be utilized to bring prices down. In everything Fisher has written, in all of his books, in all of his speeches, in all of his conversation, as to which I have a rather large equipment, he has rested his argument as much upon the hardships and suffering of falling prices as upon those of rising prices.

I am not aware that Professor Mitchell has adopted Professor Fisher's device for correcting price variations. I mean to emphasize that the essence of Fisher's contribution is the hurtfulness of price fluctuations, and having established that, he has proposed a particular device for preventing it. As to the first, there is in my opinion complete agreement among all economists. As to the second, namely, the practicability and desirability of his particular formula there is difference, but in any event, both the analysis and the remedy are to secure stability and not to encourage decline.

Professor Edwin Kammerer is Professor of Political Economy at Princeton University and Professor Wesley C. Mitchell is of Columbia University. These three men whose names I have just given are and have been for some years special students of prices and price levels; not all three of them are top notchers in that study. They could not be. If the top is broad enough all three of them might sit on it, but as a rule we only put one of them there. I think I should prefer to say that they are all economists of great distinction, my friends, and my colleagues. They have made a special study of prices and price levels and they have distinguished themselves in that field.

[fol. 957] In connection with my work so far as the Federal Reserve Bank is concerned, I have brought that down

to date, January, 1924. I do not have in my mind the total volume of imports in dollars and cents that was in the United States during the year 1923. To say just what the balance of trade was in favor of the United States at the present time, I should wish to base my answer upon computation of the figures and I would have too look it up. As to whether our exports are bought now principally on credits, available and established credits in this country—we have been receiving this gold, because the balance in a much fuller sense than that which you have employed, has been in our favor. We not only must be paid by Europe for the merchandise and the commodities which we send her—cotton, wheat and manufactures—but we must also be paid interest on the securities which we hold and for remittances on the Allied Debt; in other words, the invisible balance, and the gold which has come to us represents a part settlement of that sum. In other words, these shipments of gold to make these balances complete and effective still go on. We do not receive three hundred millions a year of gold for nothing. We have received in the past two years five hundred millions of gold. In the discussion of such matters, outside of food, clothing and shelter, and our mental wants, there is, as in the discussion of anything, a philosophical and metaphysical phase of it. Economists have succumbed to that as other respectable professions have, but the meaning is very definite and accepted. When one speaks of the value of gold or [fol. 958] money or any other thing, one means the ability of that thing to secure other things in exchange for it; not to secure one thing or another thing, but to secure a general range of things. That is what is meant by describing value as purchasing power. The value of a dollar means its ability to command a wide range of all commodities and services, and as civilization increases, I think that number of kinds of wants also increases proportionately, and these kinds of wants vary in extent over a period of years. Historians and philosophers seem to agree on that. I do not agree with the fact that during the period after a war or any great upheaval of society economists agree that we do not settle down to level for about fifteen years afterwards, either with respect to our wants or the things that we regard as valuable. I do not think economists have

spun cobwebs of that kind. It is not so agreed by economists that the period after a war time period for at least ten years is an abnormal period.

The period from 1918 to the present is not a uniform period. The period from 1918 to 1920 was a period working up to a boom. The period from 1920 through 1921 was a period of falling prices and depression. The period of 1923 up to the present time was a normal period showing marks here and there of surviving the post war disturbance as in agricultural. That is a period which I characterize as normal, with respect to the conditions being conditions that are not in my judgment momentary or likely to undergo abrupt [fol. 959] change. Production was reasonably uniform while prices were reasonable stable, employment was reasonably complete, the whole quality and complexion of our business life was free from those conditions which are recognized as spasmodic. My conclusions do not rest upon an estimate of the period as such, but upon an examination of the forces which shape that period. It is because the forces are of a kind that are not momentary, are continuous, that I infer that upon these foundations prices are likely to continue, the results will be likely to continue.

Weather forecasting has passed from the days of the old fashioned almanac and the state of mind of rheumatic people to a computation of the movement of the natural elements that result in weather disturbances based upon observation at remote points, and telegraph, and computed as to velocity. The element of inexactness arises from the possibility of some unfor-seen force appearing and disturbing. The Weather Bureau in New York is advised that an area of low temperature has developed in the northwest, moving at such and such a rate, and may be expected to reach here at such and such a time. All factors are taken into account. It therefore displays storm signals and your ship-ing scurries into shelter. It may happen that quite unfor-seen at the time a high area developed in the Gulf Stream and moves up and delays or counteracts that, but no one would dare to jeer at the weather service or prefer Hagerstown almanac methods.

[fol. 960] In the case of price forecasting you have to do with a procedure that is more secure than that, comparable in a way, but the contingency of the unforeseen and the un-

expected, while not capable of removal, is very much less, so that the element of scientific precision which underlies meterology and weather forecasting as long as it does not figure in the comic supplements, the sort of thing that saved the entire oyster fleet of Maryland two weeks ago by giving it twelve hours warning of the northwester that broke loose and enabled it to seek harbor in Chrisfield, that element of scientific precision is the basis of economic practice in regard to price forecasting and it is equipped both with more accurate instruments of precision, and it is freer from the danger and the disturbing effect of the unexpected.

Chart 1 of my Exhibit is divided into lines running across parallel to each other and between each of those lines represent a change of 25 points on the index number. In preparing this graph I have not given equal space to the different lines. This chart is a logarithmetic charge. It is a rather technical distinction, but you will notice the difference between the first chart and the second chart. The idea is that it should avoid a very great amount of space and should disclose the degree of each year over the preceding year. I have sought to correct it by having the numerals placed along the side. If each case were identical, the only difference would be that you would have a more precipitate peak, but it would have made an inconvenient [fol. 961] looking thing. The effect of preparing a chart of this sort is not to exaggerate the changes that take place between 100 and 125, for instance, as compared with the changes that take place between 225 and 250. If you will interpret a movement by reference to the numerals on the side, I do not think it would exaggerate it in one place as compared with another. It would make it appear, for example, that the interval say from 125 to 225 was no greater than from 125 to 75, but that method is employed in presenting these charts—as a matter of fact, I took that bodily from the Department of Labor. You are quite right that it is misleading, it would be misleading to one who was not acquainted with it if the numerals did not appear on the side, but if you will check the smaller blocks by the numerals you will not be misled. On Chart 3 I have drawn a base line which I marked 100; across the chart, about two-thirds of the way up and that is the 1919 base.

The New York City Branch of the Federal Reserve Bank made an investigation as to the ordinary growth in both volume of business and production. I should have supplemented population and those factors which contribute to enlarging production. If instead of using a straight line for 1919 I had drawn my line to reflect that natural increase, by the end of 1923 there would have been an increase of, assuming that were correct, 115. In the first place, the final figure which appears in the chart for December, 1923, is a seasonable depression. It represents [fol. 962] Christmas conditions. The January index number of production is 120; the February is 121. The point is that assuming that production were corrected and this curve were corrected, with respect to the trend, it would show that production has fulfilled the normal expectancy as to increase and gone slightly beyond it, but not gone beyond it as far as you would suppose from looking at this chart. The official index of production is the one which is used by the Federal Reserve Board in Washington and which is used by the New York Federal Reserve Board. The New York Federal Reserve Board is the one which I have employed. In the April statement it is produced verbatim. In addition to that the statistician of the New York Federal Reserve, with the approval of the Governor of the Federal Reserve Board, has made these studies to show what would be the normal line of expectancy. I would like to have the record at least clear on the point that the chart is to be interpreted perhaps in connection with that consideration, but it is not erroneous. On Chart 2, the dotted line represents prices in England. This chart starts in 1800. That was about the time of the Napoleonic Wars, and that ran along until about 1815. The Battle of Waterloo was in 1814. At that point on my chart, which is 1814 or 1815, there is a rapid drop in prices. Then the line repre- [fol. 963] senting the prices in England continues in a general downward direction until we come along shortly after 1850 and then there is a rapid rise, which was at the time of the Crimean War. Then there is another drop at the end of the Crimean Wars. My line then goes up from 1860, along past 1870, which was the time of our Civil War. The Civil War did not have an influence on English prices, but the monetary conditions which followed the Civil War did.

The same gold famine and demonetization of silver which aggregated our contraction in this country was felt in England. In respect to the earlier period of the Napoleanic War the explanation is in harmony with what has been said. The Bank of England suspended specie payments, issued increased circulation, and it was the contraction of that circulation in preparing for resumption of specie payments that brought about the price decline. Then in 1870 the Franco-Prussian War came along and at that time there was a rapid rise in prices. The upward spurt was of practically a year, not more than a year or two duration, and then at the end of the Franco-Prussian War prices fell off very materially and kept sliding off until they fell much below any former prices shown on this chart. After 1910 when the World War started there was a very rapid rise of prices as shown on my chart. And at the end of the [fol. 964] war, 1920, these prices again fell off. This chart does not show that after every war there has been a material fall in prices; in the sense that an affirmative answer would encourage the belief that the price fell off because the War came to an end. The chart shows that prices fell after 1870 as after 1817. It is misleading in my opinion and incorrect to link up that statement of fact as the sequel of war. War in these two periods was accompanied by paper emissions and a suspension of gold standards. After the war there was contraction and resumption of specie payment. It was that fact together with the coincidence of these periods with relative reduction in gold production that brought about falling prices and not the circumstance that the war had come to an end. There was a sharp peak in those prices about 1814. That was the end of what is known as our War of 1812. Prices practically then fell to a low point about 1843. Then we have another peak, about 1863 or 1864. That was the period of our Civil War, and directly after the Civil War the prices again fell until they hit a new low somewhere in 1897, perhaps. We then had another peak in 1920, which was shortly after the close of the World War and prices after that again fell until the end of this chart which is sometime after 1920. It is not a fact that the three wars that the United States has been in, that are shown on this chart, produced a high [fol. 965] peak each which is practically the same. The

wars did not produce them. That is exactly the element in error. During the years when this country was engaged in the three wars as shown on this chart, prices reached a peak which are practically the same in all three cases. After the war of 1812 and after the Civil War, 1864, prices fell to a level below that which they had been before the wars. But such a categorical answer is a misrepresentation of the purpose of my reply and of the truth which lies back of it. Considered as a categorical statement it represents an identity of cause, an identity of result, growing out of the entry and participation in wars. My conviction and my opinion is that these results were founded upon financial and monetary policies and upon conditions of mineral production which obtained in the War of 1812 and in the Civil War, and which were both completely absent and diametrically different in the World War. That developments in economics have been such that I can prophecy with a fair degree of accuracy what the price level will be in the future—I am unwilling to seem to encourage the term prophecy in that statement. Prophecy, as it presents itself to my mind, is an opinion not based upon reason. Political economy in this respect arrives at the causes which affect and determine prices, then inquires as to the temporary quality or the permanence of these causes and then [fol. 966] arrives at a conclusion as to the duration of the result. I do not mean that if at the present time, these lines shown on Charts 3 and 4 were carried forward, say, to June 1925, and I knew the points they would be at on June, 1925, I could tell what the prices would be at that date. May I say, if I knew what those curves were and knew the causes that were making those curves what they are and had arrived at an opinion that those causes would continue in that way, or would alter this way or that way, then I would have an opinion as to general prices at the succeeding period. In dismissing the possibility of any radical rise or fall, and entertaining an opinion as to stability, I must have an opinion as to these two curves. Take my curve as shown on Chart 3, as the production of basis industries and volume of business, many things will go to change both of those curves. For instance, the installation of labor-saving machinery generally, better factory organization, for instance, along the lines organized by Henry

Ford. All of those things will go to produce more goods if the same amount of man power or the same amount of natural resources that we now have, and the circumstance referred to before, that a study of production over a term of years shows that all factors taken into account, for as I venture to interject, it is not merely increase in population but technical improvement, show that the developments in production result in an increased volume that is fairly [fol. 967] uniform and which I described yesterday as an increase of 3½ per cent., with variance in any particular year of from 5 to 10 per cent. above or below. I hesitate, of course, always to express the opinion of economists, as one can only speak one's own opinion, and that opinion represents the materials that presumably other economists study too. I think the great interest which has been felt in the study of Mr. Schneider here in New York has been that it replaced just that kind of dipping into the future, of surmising what may be, and of dreaming that new eras will dawn, replacing that kind of thing with a definite basis of fact. If one asked what is the future to bring forth, we are merely trying to penetrate into the unknown. But when we have back of us this exhibit that in all the years which seemed to us marvelous in their technical advances, the course of production has moved along very steadily, following a definite trend, then I think the economist tempers that sort of phantasy with a hard, cold, conclusion that after all the future is not going to be a miracle age in any different sense than what the past has been. A material change in the production ability of the country has been taking place all along. We have had just that sort of thing. There has been no decade that has been a year of industrial revolution; each year, each decade brings out its extraordinary developments, and they may be more [fol. 968] pronounced in the next decade, they may be less, but I think the economist would say that the likelihood is that the trend will be a continuation of what has happened. There is very much agitation at the present time for better and more economic methods of distributing and retailing products. I think I can heartily assent to the fact that our present system of distribution and retailing is unduly extended. I am trying to work out how, if we do develop a better system of retailing and distributing, an effect on

prices might come about. It might, and doubtless in the sense that you have in mind, of a more economic method by which the world carries on its business, it might do something of that kind, but I think it would not figure in the importance or in effect with the great dominating elements or forces that we are dealing with. Arriving at my general conclusion as to price levels, I first have to take into consideration what the production would be and then take into consideration the volume of money or the amount of money. The amount of money is based primarily upon the gold in the country, but it is not the actual gold here in the country that makes the difference—it is the gold that is used. In the last analysis, it is true that the Federal Reserve Bank is political. That is, the laws that govern it, and the members are appointed by the President. In the sense in that the membership is appointed, the term political may be used, but it was contemplated, and I hope it is still enter- [fol. 969] tained and will always be, that this body should be to the business world what the Supreme Court is now in the domain of law. But at any rate, that the Federal Reserve Board should be appointed for long periods, receive large compensation, and should be completely free from any kind of political domination, that would deflect their policies from what they believed was the best interests of the country. Due to the clamor of the farmers in the West for an increase in prices, the law was amended providing that a dirt farmer should be put on. The Federal Reserve Board in its formal utterances disavows any ability to change the level of prices and force the level of prices downward, if they so wished, taking refuge in asserting that its function is to supply credit. I translate that as meaning a power to affect prices, so that with that qualification I should answer yes to the question.

As to whether economists differ as to what the future level of prices will be is a question of fact which perhaps has not been asserted. The term "economists" is used in a very broad sense. It is assumed by many whose interests and whose methods are different from those who might be described as the scientific group of economists. By the scientific group I mean those who are not concerned with meeting practical demands for news and for guidance, but [fol. 970] who form their conclusions from evidence that

is authoritative and accredited and who use the ordinary methods of scientific judgment in approaching this subject. They would use like materials and might be expected to arrive at a like conclusion. I believe it is the general consensus of opinion of scientific economists that the volume of business and the amount of money is what goes into fixing the price level. The consideration that should be exercised and which would serve as an answer is that no scientific economist forms an opinion as to what will be the volume of goods and as to what will be the volume of money out of the sky or from his inner consciousness. He forms his opinion upon the basis of the facts at hand and of the forces which will influence those facts in the future. These facts are of a very definite and indubitable kind—the course of production and the plethora of gold. So the habit of economists as far as I may venture to express it, is, when the grounds for an opinion are shadowy or not present, to refuse to give an opinion. When they do give an opinion, that must rest upon some definite fact. I am acquainted with some of the writings and opinions of Mr. Justice [fol. 971] Brandeis of the United States Supreme Court. I am also acquainted with the monthly publication that is gotten out by the National City Bank of New York City. It is ordinarily referred to as the Monthly Circular of the National City Bank. I do not know who actually writes it. Mr. George E. Roberts is connected with the bank, and his views and style can sometimes be identified, but I am unable to say whether he writes each monthly letter or what part of it. Mr. Roberts enjoys much respect among economists. I do not believe that the general movement of prices over a term of years in the future is likely to be downward.

The Bureau of Labor in preparing the index numbers used by me in my exhibit considered 404 commodities. They divide those commodities into nine major groups, and give an index number to each of those groups. And then by weighing the averages of those groups they arrive at their final composite index number. The index numbers of these nine groups differ at different times from one another, and sometimes they differ very substantially. One of these groups is farm products. Due to the fact that the farmer had not adapted himself to post-war conditions, the price of the farm products, that is, wheat and corn products,

were not in line with the other products. Taking farm products, that group used by the Bureau of Labor—that would show a very much more favorable picture. It would [fol. 972] include, for example, cotton. But the entire group of farm products is somewhat below that of wheat, sufficient to account for the disturbance in parts of the group. For February, 1924, the farm products showed 143 while all commodities showed 152. When one of these major groups is out of line with the other groups, it is the tendency for that group to take its place in the general line in the future, that is, for developments to be made in that particular group that will bring it in line. The index number of that general group known as building materials in January, 1923, was 188. The composite figure for that period was 156. The tendency will be for building materials to fall so that they will place themselves in line with the other commodities, barring some specific factor affecting them, which is not of a momentary character. If, for example, the supply of wood with the depletion of the forests should become permanently scarcer, then what would have taken place would have been a readjustment of the relative of wood to other commodities, but in so far as the price increase compared with the period we are studying, 1913, represents a lack in adjustment, its return to its place may be expected. I am sure I did not state that economists because of the advancement and investigations made by them, were able to state with reasonable certainty the trend of prices. If it by any possibility approximates it, I did not state my views correctly. I meant by [fol. 973] the statement that economists with reasonable certainty could forecast the future trend of prices, that economists would interpret the trend, taking into consideration the resultant forces, and knowing the present position of those forces, and the unlikelihood of any radical change in those forces, that they set forth not with reasonable certainty, but with that degree of confidence which commends itself to men, that prices will not undergo a return to pre-war levels, and that they may reasonably be expected to remain at their present stability.

Redirect:

No economist would venture to say that the prices which are now 152 a year from now will be 153 or 151; nor would they in times where a price movement was the resultant of a great variety of complicated causes. No economist would be willing to sit here, I know I wouldn't, and attempt to do that, but what lends the element of confidence is the presence of two great determining factors in a degree that is unmistakable, which are in the first place that forecasting does not partake of a precise location of a particular amount and in the second place, that the factors and forces disclosed are so large and so unmistakable. The facts that exist at the present time are something that are very favorable for the formation of an opinion. There have been [fol. 974] times in the past when the facts were not favorable at all for the construction of an opinion as to the future. When I was speaking about expressing opinions, I was referring to expressing an opinion as of the present time upon the facts of the present time exclusively. The economist is not in the prophesying business. There might be such a situation in the monetary world, in the financial world, in the state of affairs where there is one thing and another so that the factors are so evasive and in judging them an economist would be just about as much at sea as anybody else. He would say "Unsettled weather." In 1919, that is the occasion which I passed and used unpleasant terms in reference to some of the kind of writings that has found circulation. An undertaking to make a forecast at any time with precision simply violates the possibilities of the case. The opinion is only possible when unmistakable and extraordinary forces are evident, and that is the characteristic of the present period. If there is among the class of economists I have mentioned any such marked difference of opinion as was indicated as to the price trend, I am not aware of it. I know of no economists now who entertain the opinion that we are in for a recession of prices, a dropping of prices coming on right along in the immediate future. [fol. 975] When I stated that the financial policies that prevailed about the wars of 1812 and 1848 were not comparable to the policies that prevailed about the war known as the great war of 1918, I had reference to the wars of 1812

and the Civil War. When I said that these were the causes of the extraordinary variation in price levels, I meant that in both of those wars the gold standard was not maintained, but the phenomena were similar in the fact that the price levels varied in those two wars, in consequence of an emission of paper money to a greater amount than would have been in circulation had gold been maintained. The fact was not that they issued money because of the scarcity of gold; they issued paper money because they needed money to carry on the war and would not impose taxes or float loans.

Plaintiff rested.

[fol. 976] Brooklyn, New York, April 29th, 1924.

ERNEST EDDY, called on behalf of defendants, testified:

Direct:

I live in New York City, and I am a Public Accountant. I am admitted as a certified public accountant in the State of Washington. I was admitted to the practice of accountancy in the State of Washington in 1919. Since that time I have been engaged in the practice of public accounting exclusively. I am now employed by Mr. Mark Wolff and associates. With reference to my examination of the books of account of the plaintiff, Mr. Wolff started me on the work, gave me instructions for proceeding and made investigation of the working papers from time to time and the final working papers were submitted to him for review and preparation of exhibits. I was also under the direction of Mr. Archibald S. B. Little.

I examined the monthly reports for 1922; I checked all the monthly reports for 1922, examining the originals or inspecting copies which were made. I examined the general ledgers of the company submitted to me by the head accountant and auditor of the Kings County Lighting Company for the years 1904 to December 31st, 1922, so far as concerns the capital accounts—the capital assets, and I examined a number of vouchers in regard to materials and supplies used in the production of gas; a number of paid

cash vouchers for the purpose—that is, the larger amounts [fol. 977] for the years 1922 and 1923,—I believe—for the purpose of verifying the nature of the charges, and copies of the reports on file in Kings County given to me by Mr. Weeks or under his instructions, covering the years 1908 to 1922, in so far as concerns capital assets, retirements and installations for those years. I made transcripts from those records. (Witness examines paper handed him by counsel.) This is an exhibit of net fixed capital additions, taken from the books of the Kings County Lighting Company, as given to me, prepared by me and checked after typing, by me, and that represents the additions as shown by their ledger accounts, certain ledger accounts that represent their net fixed capital additions, and it is tied into their general ledger accounts. The figures set forth in each column opposite the figures indicating the respective years are the correct figures showing the net additions to fixed capital account during the period set forth in this sheet of paper, as shown by the books of the Kings County Lighting Company.

The Master: It may be received and marked Defendants' Exhibit No. 21.

(Paper received in evidence and marked Defendants' Exhibit No. 21.)

[fol. 978] JOHN R. OWEN, called on behalf of defendants, testified:

Direct:

I am a public accountant employed by Mark Wolff and Associates. I have been engaged in the business of accountancy for twenty years or thereabouts, and have examined the books, records and documents of the plaintiff in this case. I prepared and checked various reports of fixed capital expenditures from records of various kinds; prepared repair tables, withdrawal transactions and a variety of other reports that at the moment I do not recall. I made the transcriptions from those records and vouchers of the plaintiff which I have mentioned. I made a transcript of the repair accounts and work in progress construction

orders and certain monthly reports of the Kings County Lighting Company. I did this work under the direction of Mr. Mark Wolff and Mr. A. S. B. Little, and submitted those transcriptions to them. I have prepared various exhibits in connection with this case. I investigated the journals of the plaintiff company and specifically made a transcript of the opening journal entries, July 1, 1904, and at various times referred probably to all the general journals from 1904 to 1924. (Witness examines the opening journal entry.)

Mr. Moran: The books are in evidence. This journal entry is in evidence already.

I prepared a summary also of the reports made by the plaintiff to the State Tax department at Albany.

[fol. 979] Benjamin Cohen, called on behalf of defendants, testified:

Direct:

I am an accountant and I was retained in this case by the Attorney-General of the State of New York. I was with the Public Service Commission from 1918 up to 1923. When I first came with the Commission I made examinations of companies' reports, verified them with the books of various companies and so on, and when the prior gas rate cases were opened I was assigned to the Consolidated Gas Company, under Mr. Frank, who had charge of the audit of the company. Mr. Frank left before the close of the case, and I was placed in charge of the Commission's accounting force on that case. I made up schedules in that case which were introduced in evidence, and testified, advised counsel, and things of that sort. I did similar work in New York and Queens case and the Central Union and Northern Union and the Standard, Mutual, New York and Richmond cases, and those are all that I recall at the present time. In this case I made an examination of several companies' books. I worked on the Consolidated Gas Company's books in this case, and in the Brooklyn Union and the New York and Queens and the Kings County. I held my position in the

Public Service Commission as accountant by virtue of an examination. I was what you call a Civil Service man, appointed from a competitive list. I made up several sched- [fol. 980] ules in the Kings County Lighting Company case. I have those schedules here. (Witness handed papers to counsel.) I have more copies, and also have a copy of the schedules that I prepared before me. This sheet is the opening journal entry, July 1st, 1904, of the Kings County Lighting Company's books, taken from the company's journal No. 1. On the plaintiff's journal No. 1, the column which shows the names of the account is taken from the company's journal, as well as the columns which show the figures opposite those accounts, are all taken from the company's journal, and those figures, I believe, constitute, as well as the items, a correct transcription of the opening entry of plaintiff's journal No. 1. The figures appearing at the bottom of the column showing figures are the additions that I made of the figures in the particular column. I believe they are correct.

Sheet 2 is a statement of the assets and liabilities of the Kings County Gas & Illuminating Company on June 30, 1904 as they were reported to the Board of Tax Commissioners of this State. That is, that refers to the first part, the first half of the sheet. The second half of the sheet is the opening balance sheet of the Kings County Lighting Company on July 1st, 1904, made up on the basis of the journal entries shown on Sheet 1. The source of the first half of the statement, that is of the assets and liabilities of the Kings County Gas & Illuminating Company on June [fol. 981] 30, 1904, is the minutes of the report of the Joint Legislative Investigating Company of which Charles E. Hughes was counsel and the date is 1906. On page 2555 of that Committee's report there is given a balance sheet such as is shown on this schedule. The source of the second half of the sheet, that is the opening balance sheet of the Kings County Lighting Company, July 1st, 1904, I have already stated is the journal entry on Sheet 1. The transcripts of what appears on this second sheet I believe to be a correct transcription of those sources. I believe the computations that I have made on this sheet showing additions to be correct.

On Sheet 3 I have taken the two balance sheets shown on Sheet 2 and put them one alongside of the other, that

is the balance sheet of the Kings County Gas & Illuminating Company on June 30, 1904, in the first column, the balance sheet of the Kings County Lighting Company July 1st, 1904, in the second column, and I have computed the differences in the figures of the items in the balance sheet on the third column entitled "Increase" or "decrease." The only computations that I have made are in the third column which is the increase or decrease column. The third sheet represents a recapitulation of what appears on the first two sheets of the schedule. That is, a recapitulation sheet appears next to the other so as to show the differences in the various accounts, as they appear on the books [fol. 982] of the plaintiff company and on the public records which I have described. I believe them to be correct. I believe I correctly set opposite the various items showing assets and liabilities the figures as indicated from those sources of information.

Mr. Hyatt: I offer that in evidence, consisting of sheets 1, 2 and 3 of the schedule of Mr. Cohen.

Cross:

Speaking about the first half of Sheet 2, I said that the balance sheet showed the figures reported to the State Tax Commission, but I took those figures from the report of the Stevens Investigating Committee. That was the statement I made. I call it a balance sheet. It was not taken from the Tax Report, it was taken from the report of the Stevens Investigating Committee, wherein a copy of the Tax Report as of that date appeared. I didn't use the Tax Report for the reason that we could not locate it. The first tax report to the State Tax Department has not been put in evidence, that is, the report made to the State Tax Department by the Kings County Gas & Illuminating Company.

Mr. Moran: I object to it because it is hearsay, so far as that balance sheet, being the first part of sheet 2 is con- [fol. 983] cerned. It is not proved.

The Master: This will be received and marked Defendants' Exhibit No. 22. (Paper received in evidence and marked Defendants' Exhibit No. 22).

I am not a certified public accountant. I advised with the counsel in the cases tried in 1919 and 1920, and advised with counsel in this case and the other cases of this series.

Redirect:

I have testified in the Consolidated; the New York and Queens, that is, in the 1919 and 1920 cases; the New York and Richmond, the Central Union; I don't recall whether I testified in the other subsidiaries of the Consolidated or not. I testified as an accountant in those cases, too. I have not been with the Public Service Commission since last November, as I stated on the record a while ago. I have been partly in practice for myself, and partly working for the Attorney-General in these cases, since November. I began working for the Attorney-General about the same time that I left the Public Service Commission. I have told where I got the figures on all of these sheets, including sheet 3. The third column on sheet 3 I worked out as the [fol. 984] difference between the first two columns. I haven't taken that as a copy of some other man's work, nor did I take that as a copy of Mr. Gaynor's work. I do still say I prepared it.

[fol. 985] Mark Wolff, called on behalf of defendants, testified:

Direct:

I am a certified public accountant of the State of New York. Originally, soon prior to and immediately after passing my examinations I was engaged in public accounting, employed by two firms of certified public accountants in 1910 and 1911. I received my certificate to practice in May, 1913, as a result of an examination passed prior to that time. I have prepared a statement of my qualifications in brief form, shown on two sheets of paper. It is a brief statement of my qualifications and experience, and what is set forth in those two sheets of paper as to my qualifications is correct and true.

"Brief Statement of Qualifications of Mark Wolff"

Graduate of New York University, 1910. Degree-Bachelor of Commercial Science. Certified Public Accountant—New York State, by examination passed June, 1911. Offices: 50 Madison Avenue, New York City.

Experience:

1911-1912 Employed by two firms of Public Accountants as a member of staff.

1913-1917 Employed by City of New York as Accountant, through Civil Service examination.

Jan. 1913 to Oct. 1914—Chief of Costs and Statistics Division, Department of Water Supply, Gas & Electricity.

Oct. 1914 to May 1916. Audited and made analyses of the [fol. 986] books of seven private water companies operating in Queens and Brooklyn.

Writings at about this time: Paper entitled "Interpretation of Water Works Accounts," read before New York Convention of American Water Works Ass'n, and another paper entitled "Pumping Station Cost and Efficiency Records," read a year later at the Richmond, Va. convention of the same Association.

June 1916 to Dec. 1917. Inspected and made up analyses from reports of gas, electric, telephone and conduit companies operating in New York City.

1918-1924. In practice as Certified Public Accountant, specializing in public utility rate cases. In most of the following cases, which constitute my experience to date, my employment was directly by the municipality or state interested; in a few instances employment was by other experts, engineers or public utility consultants. In all cases I had full charge of the accounting work done during my engagement.

Public Service Railway Company. Examination and report on 119 underlying companies. On behalf of the New Jersey State League of Municipalities in 1918, the cities of Newark and Jersey City in 1919, and the New Jersey State Board of Public Utility Commissioners in 1921.

Montreal Water & Power Co., Town of Outremont, Montreal, P. Q.

[fol. 987] Michigan Railway Co., City of Kalamazoo, Mich.; Scranton Railway Co., City of Scranton, Pa.

Port Richmond & Bergen Point Ferry Co., County of Hudson, N. J.

Hudson & Manhattan Railroad Co., Cities of Jersey City & Hoboken, N. J.

Public Service Railway Co., Public Service Gas Co., Public Service Electric Co.—Assessment for taxes, City of Newark, N. J.

New York Telephone Company, Syracuse Telephone case—City of Syracuse, N. Y.

New York Telephone case, City of New York.

Buffalo Telephone Case, City of Buffalo, N. Y.

Meriden Gas Light Company, City of Meriden, Conn.

Meriden Electric Light Co., City of Meriden, Conn.

Southern Bell Telephone & Telegraph Company, Alabama Telephone Case, Cities of Birmingham, Mobile and Montgomery, Ala.

Cumberland Telephone & Telegraph Co., Mississippi Telephone Case—Attorneys General of Mississippi (1921 and 1923).

Louisiana Telephone Case. City of New Orleans, La. (Later employed by Louisiana Public Service Commission).

Tennessee Telephone Case. Cities of Nashville, Memphis, Knoxville and Chattanooga. (Later employed by Public Utility Commission of Tennessee.)

Commonwealth Water Co. Town of Irvington, N. J.

[fol. 988] Minneapolis Street Railway Co., City of Minneapolis, Minn.

Citizens Water Supply, City of New York.

Hudson & Manhattan R. R. Co., City of New York. (Rentals for Sixth Ave. Extension).

Southwestern Gas & Elec. Co., Louisiana Public Service Commission. Gas Dept., Electric Dept.

Baton Rouge Electric Co., Louisiana Public Service Commission. Gas Department. Electric Department. Street Railway Dept.

Shreveport Railways Co. Louisiana Public Service Commission.

Standard Pipe Line Co. Louisiana Public Service Commission.

Middlesex Water Co., Borough of Carteret, N. J.

I have had experience in the practice of my profession in connection with the examination of the books of account and general business data, of a number of other public utility corporations. They are set forth in the qualifications just mentioned. I made examinations of books, accounts, records and reports of street railways, gas, electric light, telephone and water companies. My office is at 50 Madison Avenue. I am employed by the Attorney General of the State of New York in this Kings County Light-
[fol. 989] ing Company case. My assistants in my work in the examination of the books of account of the plaintiff company have been Mr. John R. Owen, Mr. Ernest Eddy, Mr. Marshall B. Reeve, and Mr. Thomas Kelly. I have personally examined the data that they have prepared in connection with their work in examining the books, and their work has been under my direction and supervision.

I have examined the books of the Kings County Lighting Company from January 1st, 1911, to May 31st, 1923, for the purpose of preparing statements showing the changes in the company's fixed capital invested, and have prepared such statement, showing the change from the year 1911. In my dealings with the plaintiff company, I have received from them co-operation to the fullest extent, in the work of my examination of the plaintiff's books. They have at all times been ready to accord me access to all their books, records, data, vouchers, monthly statements and so on, quite as well, if not better than any of the other companies with whom we have been engaged in these dollar gas cases.

Referring to Defendants' Exhibit 23, it is a statement showing the fixed capital additions, retirements and net additions for the year 1911, exclusive of land, arranged by the accounts as prescribed and issued by the Public Service Commission in the Uniform System of Accounts for gas companies. I have on the left hand side of the sheet ar-
[fol. 990] ranged all the items of property with the exception of land, and set forth the names of such property which was acquired by the company in that year. The first column of figures is the gross additions during the year 1911, and the second column is the retirements during that year. The third column is the net additions during that year. The figures at the bottom of each of those columns represent the total gross additions $156,250.35, retirements $986.14,

and the net additions, $155,264.21. In this connection I wish to remark that the column of retirements does not include any retirements if there were any in 1911 of fixed capital which was in existence on December 31st, 1908, and which is kept in a separate account. This statement deals only with the fixed capital installed since December 31st, 1908.

(Mr. Hyatt: I offer that in evidence.)

This sheet was prepared under my direction and checked by me, from the sources indicated.

The Master: It may be received and marked Defendants' Exhibit 23.

(Paper received in evidence and marked Defendants' Exhibit No. 23.)

Defendants' Exhibit 24 is a statement showing the fixed capital additions for the year 1912, exclusive of land, giving by accounts, the gross additions, the retirements and the net additions of fixed capital installed since December 31st, 1908. The figures shown on this statement are ar- [fol. 991] ranged according to the classification of the Public Service Commission and do not in every respect agree with the company's ledger, but they do in total. An item of general equipment on the company's books will consist of two or three accounts, which have been combined for this purpose and arranged according to the Public Service Commission classification. The figures in the three columns are totalled, showing for gross additions during the year 1912 $66,946.05, for retirements $680.63, and net additions $66,265.42. Those figures were prepared under my direction, and I believe them to be correct.

Mr. Hyatt: I offer that in evidence.

The Master: That will be received and marked Defendants' Exhibit No. 24.

(Received in evidence and marked Defendants' Exhibit No. 24.)

Defendants' Exhibit 25 is a statement similar to the other two submitted, showing for the year 1913 the gross additions, retirements and net additions to fixed capital, ex-

clusive of land, of fixed capital installed since December 31, 1908. There were computations made in connection with such exhibits. The gross additions for the year 1913, as shown here, are $208,509.67, retirements $2,031.98, and net additions $206,477.69. And the items of property appearing in the extreme lefthand column correctly describes the various kinds of property acquired by the plaintiff during that year, according to the Public Service Commission [fol. 992] classification. They are subject to the same remarks I made in regard to 1912. I believe that correctly represents the books of the plaintiff company with respect to their capital accounts for that year.

Mr. Hyatt: I offer that in evidence.

The Master: It may be received and marked Defendants' Exhibit No. 25.

(Received in evidence and marked Defendants' Exhibit No. 25.)

Defendants' Exhibit 26 is a statement similar to the previous ones submitted, and is for the year 1913, showing the fixed capital additions, exclusive of land, of the property installed since December 31, 1908. The gross additions are shown, as well as retirements, also the net additions. These items of property and these figures are transcriptions of the plaintiff's books of account with respect to its fixed capital, arranged according to the Public Service Commission classification. They correctly reflect the books of the plaintiff as to its fixed capital account.

Mr. Hyatt: I offer that in evidence.

The Master: It may be marked Defendants' Exhibit No. 26.

(Received in evidence and marked Defendants' Exhibit No. 26.)

Defendants' Exhibit 27 is a statement similar to the others submitted and is for the year 1915, showing the [fol. 993] same information as the others did for the years 1911, 1912, 1913 and 1914. Assuming the same questions were asked me, my answers would be the same with respect to the year 1915.

Mr. Hyatt: I offer that in evidence.

The Master: Received and marked Defendants' Exhibit No. 27.

(Marked Defendants' Exhibit No. 27.)

Defendants' Exhibit 28 is a statement similar to the others submitted, and shows for the year 1916 the same information that the previous exhibits showed for the years 1911 to 1915. If I were asked the same questions my answers would be the same with respect to the year 1916.

Mr. Hyatt: I offer that in evidence.

The Master: Received and marked Defendants' Exhibit 28.

Defendants' Exhibit 29 is a statement showing for the year 1917, the gross requirements and net additions the same as did the previous exhibits for the years 1911 and 1916. If I were asked the same questions with respect to the year 1917, my answers would be the same as they were to the questions asked as to the previous years.

Mr. Hyatt: I offer that in evidence.

The Master: Received and marked Defendants' Exhibit 29.

Defendants' Exhibit 30 is a statement showing the fixed capital additions exclusive of land for the year 1918, and [fol. 994] is arranged in the same manner as the preceding exhibits showing the same information. If I were asked the same questions as to the year 1918 that I was asked with reference to the previous years, my answers would be the same.

Mr. Hyatt: I offer that in evidence.

The Master: Received and marked Defendants' Exhibit 30.

As to the year 1918 there is only one difference in form only; the second column, the money column, is entitled "Retirements from service" while on the other exhibits the entitling was "Retirements." They are both intended to mean the same thing, and they were not uniformly typed when the exhibits were put through the typist's hands.

Referring to a notation appearing on Defendants' Exhibit 30, the R wherever shown on these exhibits indicates

red, which, on an original would mean a credit. To illustrate, the account of water gas sets and accessories shows gross additions in 1918 of $1,527.90; the retirements amounted to $2,869.25, indicating in the net addition column as a red figure $1,337.35, meaning that the retirements exceeded the gross additions, so that where the result appeared in the net addition column it is not a net addition, but a net deduction. That notation at the bottom of each one of those exhibits means the same thing, in all cases.

Defendants' Exhibit 31 is a statement arranged for the [fol. 995] year 1919 and shows the same information by Public Service Commission accounts of gross retirements and net additions during that year exclusive of land, similar to the preceding exhibit, and if I were asked the same questions which I was asked previously with respect to the year 1919, my answers would be the same.

Mr. Hyatt: I offer that in evidence.

The Master: Received and marked Defendants' Exhibit 31.

Referring to the Defendants' Exhibits below, the statement is similar to the other and gives the same information for the year 1920 that the others did for the years 1911 to 1919 inclusive. The statement I have for the years 1921, 1922 and for the five months ended May 31, 1923, is a statement arranged in the same manner that the preceding statements were arranged, showing the fixed capital additions. If I were asked the same questions with respect to those statements that I was asked with respect to the previous exhibits my answers would be the same.

Mr. Hyatt: I offer these in evidence.

The Master: With that objection these will be received [fol. 996] and marked Defendants' Exhibits 32, 33, 34 and 35. (Marked respectively Defendants' Exhibits 32, 33, 34 and 35.)

Defendants' Exhibit 36 is a statement showing the net additions to fixed capital January 1st, 1911, to May 31, 1923, exclusive of land, and arranged by Public Service Commission's classifications for gas companies, and shows the same figures under the columns for the respective years as are shown in the last column of the preceding exhibits,

the net additions. Also it shows the total from January 1, 1911, to May 31, 1923 of net additions in the various accounts. Further, there is shown on this statement an item of overhead for the five months of 1923, which is a figure obtained by me from Mr. Little, and computed by himself and Mr. Owen of $6,508.14, which I have added to my figures for the first five months of 1923. The figures are set forth there as well as the items transcribed from the plaintiff's books of account. They are arranged according to the Public Service Commission's classifications with the exception that the $6,580.14 item does not appear on the company's books of account, and is a computation. My figure is the result of a personal computation.

Mr. Hyatt: I offer that in evidence.

The Master: Without objection it will be received and marked Defendants' Exhibit 36.

That overhead represents undistributable overhead [fol. 997] which, under the company's practice, were distributed at the end of each year to the various fixed capital accounts. I did not distribute them to the various accounts, but merely took the figures which I obtained in the manner indicated, and added it to the total. I haven't the work in progress account. The work in progress account, if I were to include it, would be included on one date, May 31, 1923, the amount that stood in that account at that time. There was a substantial amount, what you might call an open account of work in progress at that time; several hundred thousand dollars of uncompleted work.

The Master: It will be received as Defendants' Exhibit No. 36.

When I say exclusive of land, that does not necessarily mean the company did not buy any land during this period. The company probably did, and not only bought land but it also probably retired or sold land which it owned and acquired previously. I do not say that as a fact, but it is just possible that it might have done so. I have not included any entries in the account entitled land here at all; one way or another, I left land out entirely.

(Marked Defendants' Exhibit No. 36.)

Defendants' Exhibit 37 shows the amount expended for repairs from June 1st, 1923, to March 31, 1924, by the Kings County Lighting Company, arranged by classification of accounts under the heading of production and distribution, [fol. 998] the two being summed up to show the total repairs for the ten months period on this statement. The figures appearing in those columns correctly reflect the similar items of account in the company's books, and the entire computation included on that sheet is correct, to the best of my knowledge and belief.

Mr. Hyatt: I offer that in evidence.

The Master: It will be received and marked Defendants' Exhibit 37.

The last exhibit is for repairs for a period of ten months from May to March. It shows the repairs since the date of your valuations, June 1st, 1923. I have not examined the plaintiff's property with reference to working capital employed by it, but I have made an examination of the company's books and have grouped certain current assets and current liabilities which I have had typewritten in the form of a statement.

Defendants' Exhibit 38 shows at the close of each month in the calendar year 1923 the amount of current assets and current liabilities, as well as the average for the year 1923, also the net current assets, a computation made by me by a process of deducting the current liabilities from the current assets. I brought in here an average made up from the books. It is the exact amount at the end of each month in these various accounts, except that I have also averaged [fol. 999] it in the last column for the whole year.

Mr. Hyatt: I will offer it as it stands.

Mr. Moran: Subject to verification I have no objection.

The Master: It will be received and marked Defendants' Exhibit No. 38.

This paper shows grouped under current assets and current liabilities accounts which in my opinion are applicable to working and construction capital. The net current assets represents, with the exception of the gas on hand, the amount of working and construction capital contributed by

the investors in the enterprise, that is the stock and bond holders, as indicated by the books of the plaintiff company.

These seven statements (handed witness) are really four proposed exhibits. The first consists of seven pages and is the return to investors in public utilities as indicated by offerings of bonds as advertised in the Commercial and Financial Chronicle for one year from April 1st, 1923, to March 31, 1924, and shows the name of the company whose securities were offered, a description of the security, the date of maturity, the amount of offer, the rate of interest, the price at which offered, the yield in per cent., which counts to maturity, a reference as to the advertisement appearing in the several issues, as well as the names of the investment houses making the offerings. Sheet 5 is a simi-
[fol. 1000] lar statement of offering of stocks of public utilities for the same period. The first four sheets are not all alike, but they are continuing. The first four are bonds, the next one is stocks. These figures appearing on the faces of the four sheets are correctly transcribed from these sources of which I spoke. The names are indicated on the extreme righthand column by number. The key to the numbers is given on page 4, which shows on the lower half of the page a list of the several investment houses making the offerings from No. 1 to No. 70, there being 70 investment houses altogether making offering in those years as shown by these statements. That is a correct transcript of this source of information. By this I attempt to cover the subject in question. This information was taken from that source.

Mr. Hyatt: I offer it in evidence.

Mr. Moran: No objection, subject to verification.

The Master: Sheets 1, 2, 3 and 4 are received in bulk and marked Defendants' Exhibit No. 39.

This covers a period from April 7th, 1923, to March 29th, 1924, the dates shown, but it really covers a year. These are the offerings that were advertised in the Commercial and Financial Chronicle. It includes none that were advertised otherwise than in that; just the one source. They were all advertised in the Commercial and Finan-
[fol. 1001] cial Chronicle during that year. I tried to get all the public utility securities advertised in the Com-

mercial and Financial Chronicle during that year, regardless of the amount of the issue, and regardless of other considerations. Roughly I can tell how many issues I have got here. There is about one hundred, I would say. This yield I have is the advertised yield, that is based on holding to maturity. I have worked out a few of them, and I believe it does come to maturity. Investment houses usually do count to maturity, because in that way they can attract the investing public by offering a high rate of return. That is, the yield there is not only the annual rate of return, but the spread of the discount, and they range throughout the whole United States. I don't believe there are any foreign issues in that. All in the United States, yes. It represents all the offerings of bonds during that year that were advertised in the Commercial and Financial Chronicle. Mr. Arron did some of the work, and Mr. Owen did the other part of it. It was done under my supervision. It was not all done by myself.

The next statement shows the public utility stock offerings during the year April 1st, 1923, to March 31st, 1924, as abstracted from the Commercial and Financial Chronicle, and shows the same information as the preceding tables, [fol. 1002] except that this represents public utility stocks rather than public utility bonds. And, so far as the record on that sheet indicates that is a correct transcription of the sources of information about which I have testified.

Mr. Hyatt: I offer it in evidence.

I only have fourteen here. There are relatively few offerings of stocks and these happen to be all preferred stocks, too; there are no common stocks. I took all stocks, but there happened to be no common stock; these are all preferred. I just confine myself as to what was advertised in the Commercial and Financial Chronicle. I made no effort to find out about any local issues that did not happen to be advertised; we took it just from the one source. I believe plaintiff company is selling some stock to consumers, and there may have been others. I have seen advertised the New York & Richmond stock in the newspapers, and I have seen plaintiff's, I believe, and I think plaintiff company had some bonds.

The Master: Do you offer this?

Mr. Hyatt: Yes, I offer it.

Mr. Moran: No objection, subject to verification.

The Master: It will be received and marked Defendants' Exhibit No. 40.

(Received in evidence and marked Defendants' Exhibit No. 40.)

(Witness handed another piece of paper.) This is the public utility bond sales on the New York Stock Exchange [fol. 1003] for the week ended April 14th, 1924, a statement showing public utility bonds sold on the Stock Exchange for that week, giving the highest and the lowest quotations for the week, and the highest and lowest quotations for the year 1924, up to April 14th, and the yield, the approximate yield on the lowest quotation for the week ended April 14th, 1924, of all public utility bonds traded in on the New York Stock Exchange during that week. This information was taken from the New York Times, showing the transactions for the week ended April 14th, 1924. I believe it is a correct transcription of the source of information, so far as embraced within this exhibit.

Mr. Hatt: I offer it in evidence.

The Master: Without objection, it will be received and marked Defendants' Exhibit No. 41.

If I did not take here all the bonds that were dealt in in that week, then I did it through inadvertence. The purpose was to take all of the bonds traded in during that week, and I believe this statement shows all the bonds traded in during that week. There is nothing left out, but if there is something left out, it was left out by inadvertence. I don't believe there were any Brooklyn Edison bonds sold of the issue about which counsel speaks during that week. It so happened that there were no trades. I got this from the New York Times. I am taking the New York Times of the Monday following the week ended April 14th—the New [fol. 1004] York Times on the morning of April 16th. I thought I might be able to check that up right here, but I find we haven't got that paper here. The next statement shows the public utility stock sales on the New York Stock Exchange for the week ended April 14th, 1924, and gives

the highest and the lowest for the year 1924, as well as the highest and lowest for the week ended April 14th, 1924, and the yield based on the lowest sale during that week, which yield is a computation made by me. The yield is my computation on this last one, and also on the preceding one. I might have indicated that. The New York Times does not give the yield of bond sales. I figured that out, but I did not figure that at maturity. The yield shown on the bonds does not take account of maturity. It is really what his rate of return would be, without the spread of the discount. If there was a discount, the yield would be increased. If there was a premium, on the other hand, the yield would be reduced. The price itself is an indication of whether there was a premium or discount. It correctly sets forth the information from this source.

Mr. Hyatt: I offer that in evidence.

Mr. Moran: No objection, subject to verification.

The Master: It may be received and marked Defendants' Exhibit 42.

(Witness handed a sheet of paper.) This statement is an extract from a schedule, as shown in the reports of the [fol. 1005] Kings County Lighting Company to the State Board of Tax Commissions, and its successor, the State Tax Department, for a period of years, showing the valuations reported to the tax authorities at June 30th, 1905; December 31st, 1906; December 31st, 1907; December 31st, 1908; December 31st, 1909; December 31st, 1910; June 30th, 1911, June 30th, 1912; June 30th, 1914; June 30th, 1916, of the tangible real property in streets, highways and public places; the cost to reproduce new, as well as the present value as of those dates; the tangible property outside of streets, highways and public places, arranged according to cost to reproduce new, as well as present values; the tangible personal property; arranged according to cost to reproduce new and the present value. Those are the same in all cases. The total tangible property, which is a computation made by me, by addition of the other three items, showing the total tangible property, cost to reproduce new, and present value. That is a summary of the information set forth in certain exhibits that the defendants have offered in evidence, and which have been received, known as the re-

ports made by the plaintiff to the State Tax Department. I understand they have been offered in evidence, and these are taken from those reports, for convenience. I believe the transcription made by me in that summary was correctly made, and the additions and computations made by me are correctly made. I was unable to obtain any reports [fol. 1006] made by the plaintiff to the State Tax Department after the year 1917, and including that year.

Mr. Hyatt: I offer it in evidence.

Mr. Moran: I object to it on the same ground that I objected to the reports.

The Master: This exhibit is simply a summary, a tabulation of the exhibits already in evidence, for the convenience of all those who may go over this record. The objection is overruled and it will be received and marked Defendants' Exhibit 43.

(Received in evidence and marked Defendants' Exhibit No. 43.)

[fol. 1007] Archibald S. B. Little, called on behalf of defendants, testified:

Direct:

My full name is Archibald S. B. Little. I have prepared a statement of my qualifications, and what I have set forth in that statement is correct and true. That statement of qualifications has been in the New York and Queens case, recently held in the Federal Court. I testified as engineer in the New York and Queens case.

"Statement of Qualifications Submitted—A. S. B. Little

I am retained by the Attorney-General of the State of New York as engineer in charge of the work connected with all the gas cases now pending in the Federal Court, including the Kings County Lighting Co. I am also under retainer by the City of New York, in charge of public utility rate investigations; and under the terms of that yearly contract, I am permitted to, and have in the past three years had charge of engineering work in gas rate cases for

other municipalities and for other States at the places named hereinafter. I am 44 years old. After preliminary education at the public Schools in West Ham, followed by three years Academic training and two years under private tutors, in England, and technical engineering training at the Science and Art Schools, Stratford, England, and Gordon's College, Aberdeen, I entered the employ of the New [fol. 1008] Conveyor Co., Ltd., London, in 1893. In 1894 I was made an apprentice engineer to Barry Henry & Co., Aberdeen, specialists in gas apparatus construction; and in 1895-6 was apprentice engineer to Harpers, Ltd., Aberdeen, specialists in power generation and transmission machinery. From 1896 to 1905 I was employed by a group of affiliated companies specializing in gas and electric plant designs and construction, power gas production apparatus, coal mining and cleaning machinery, structural steel building construction, and labor saving machinery, said companies consisting of Transport Appliance Works, Ltd., New Conveyor Co., Ltd., Little & Graham, Ltd., and the Automatic Coal Gas Retort Syndicate, of London, Birmingham, and Glasgow. I was successively employed as draftsman, estimating clerk, head of cost finding department, assistant works' manager and engineer, secretary, manager, and, finally, managing director. These comapnies were engineers and contractors, and under my direction from 1901 to 1905 they designed, built and installed, and also redesigned and constructed labor and fuel-saving plants for gas works, steel mills, iron works, coal mines, docks, street railways, underground electric railways, coke ovens. Said plants, including gas plants, were guaranteed as to performance and maintenance for periods from 3 months to 12 months, and the starting and operation was under my control. My duties with the companies mentioned included [fo. 1009] supervision over as many as twenty-five draftsmen, six bookkeepers, five cost accountants, two to three hundred men in the manufacturing plant, and at different times several hundred men were engaged on outside building work, the erection of steel buildings, the installation of equipment and the starting up of plants. I have regularly read, during the past twenty years, the principal technical engineering and gas magazines published in this country and abroad, as well as all books relating to gas manufacture and gas distribution.

My first research work in connection with water-gas operations consisted of studies made in 1902 to 1905 of water-gas plants built according to the Lowe, Belwick, Kramer and Aarts, and the Economical designs, principally with the object of producing a combination water gas and coal gas, to save oil but also for the production of blue water gas with a small percentage of carbon dioxide. Operating plans were made for the removal of inert gases from the blue water gas to conserve the heating qualities of the mixed gases. This study of auto carburetting and its application to gas production was also carried on by me in the United States, beginning in 1911. Also at that time, tests were made by me and plans carried out under my direction which permitted of bituminous coal being used as a generator fuel.

[fol. 1010] Studies were made in connection with low-grade gases. I designed and built in Great Britain dozens of gas producers of both the pressure and the suction type, as a subcontractor, and was connected with the Power Gas Corporation, which contracted for a plant required by South Staffordshire Mond Gas Company to make and distribute to industrial users a low-quality of gas for power and heat-production purposes. Prior to that I designed and built producers and equipment for Brunner Mond & Co. As assistant engineer to Maurice Grahm, I redesigned the Coze patent inclined retorts for the production of coal gas, in Great Britain, France, Italy and Germany. I also made studies of coke oven designs in connection with the building of the steel structures used in connection with said ovens, and also built coal-conveying plants, charging machines, ash-conveying plants, and coke-conveying, storing and reloading plants for coke ovens at Brymbo, Glengarnock, Cowdenbeath, Wigan, St. Helens, etc. I designed and furnished a considerable part of the fire-brick work for the ovens built at Joliet, Woodward and St. Louis. I was also engaged as expert to the consulting engineer who was employed to report on the designs of the coke ovens built at Canal Dover during the war. In connection with coal mining, I designed and built in Great Britain, from 1901 to 1905, pit-head apparatus and equipment, for the purpose of winning, sizing, cleaning and washing coal to be [fol. 1011] used principally for the production of gas. In

the United States, during 1912 to 1914, I was engaged as consulting engineer to a group of coal companies, operating over twenty coal mines in Middlesborough, Kentucky. This necessitated going into the mines, taking samples, inspecting the seams, and having charge of chemical analyses and gas tests on these coals, for the purpose of demonstrating their usefulness in the gas business,—the chemical work and testing being done at Detroit, under my direction, by Leigh E. Worthing, chief chemist of the Detroit City Gas Co. Other tests on these coals on a large scale were made at Station A of the Laclede Gas Light Co., St. Louis. I later opened a mine that I partly controlled in Western Kentucky, for the purpose of securing gas coal for St. Louis, and over a thousand tons were tested in actual operations. I also acted as agent for the sale of other coals to gas companies in the United States.

In conjunction with T. J. Weber, director and consulting engineer of the United Light & Railway Co., I took out a patent for a companies gas making system, embodying the principal of mixed blue-water gas and coal gas, which system is now in almost general use in Europe. In connection with gas purification in the United States, from 1910 to 1915 I mined and prepared in Tennessee and in California, iron mass for use in gas plants, and also cooperated with [fol. 1012] Victory Dewey, general manager of the Detroit City Gas Co., and later with George B. Evans, of the Laclede Gas Light Co., St. Louis, in designing and patenting a system of liquid purification of gas, in which minerals carried in suspension in water were used for removing impurities from gas. This system is now successfully in use, with the one difference that, instead of using a combination of minerals in suspension in the liquid, one mineral is used. In 1912 I designed and used a system that permitted gas companies to use a waste product for purifying gas. In 1913 I patented, and there is now in use, in several states, a grid system for supporting iron mass in purifier boxes. Also, a system for revivifying fouled oxide. In 1914 I designed and gas companies used my system of treating gas to prevent deposits of nap-thalene. In connection with gas distribution systems, studies were made of those in use at St. Louis, Chicago and other places in Illinois, including Waukegan, which was the first to instal and use successfully

a high-pressure transmission and low-pressure distribution gas system in the Middle West. In 1918 I had to work for weeks on that system to restore gas pressure to the outlying towns. In 1908 I investigated the high pressure transmission system of the Public Service Company of N. J., and wrote a technical description of it for the Journal of Gas Lighting.

In the utilization of gas under both high and low pres- [fol. 1013] sure, studies were made of lighting and heating appliances, and I designed and built in 1915 appliances of this description, in which a mixture of gas and air was preheated before going to the burner tip.

In connection with the commercial department of gas companies, studies were made of the bookkeeping, billing, meter reading, jobbing, collecting, claims, credit and similar departments, particularly of The Peoples' Gas Light & Coke Co., Chicago, and on my recommendation, radical changes were made in the method of doing business by that company. In this work I cooperated with Charles A. Munroe and other executives of the Gas Company in 1917 and 1919.

I am not a chartered or certified accountant, but as secretary of the New Conveyor Company I had charge of all its books and I opened a new set of books for the Central States Gas Company. I am a member of the American Gas Association, and have at times been a member of the Illinois Gas Association, Michigan Gas Association, Southern Gas Association, and of the Association of Mechanical Engineers, Birmingham, England. At the latter I read two papers,—the first in 1904.

My early experience in the manufacture of gas apparatus and equipment included the production of cast iron mains, retort iron work, bench mountings, exhausters, steam [fol. 1014] engines, pumps, governors, and the design and inspection in the manufacturer's works of firebrick work used in coal gas and water gas operations, this work occupying from 1894 to 1906. In connection with the redesign, construction, or reconstruction of gas works equipment, my first work was on a new plant at Huddersfield in 1897, and this was followed by work at Rochdale, West Hartlepool, Salford, Burslem, Batley, Cambridge, Budley, Leek, Hull, Smethwick, Leeds, Swansea, Middleton and Nelson, etc.

Machinery and apparatus for gas works, exclusive of the firebrick work, was also designed and built under my supervision, at three different works in Birmingham, at Edinburgh, Glasgow, Burnley, Sheffield, Stratford, Portsea, Cradley Heath, Ipswich, Middlesborough, Cardif, Neath, Newcastle, Milan, Melbourne, Bremen, Koenigsborg, Wellington, N. Z., London, Kilmarnock, Brighton, Tipton, Burton-on-Trent, Oxford, Belfast, Hanley, Leigh, Stoke, Neath, Jersey, Wolverhampton, Coventry.

In connection with boiler-houses, equipment such as labor saving machinery, coal and ash-storing and loading apparatus, and coal measuring and saving equipment, was designed and installed for; London County Council, (Tramways,) City and South London Railways (tubes), Central London Railway (tubes), British Westinghouse Electric Co., (Mersey tubes) British Thompson Houston Company, Electric Construction Company, Birm- [fol.1015] ingham Electric Power Station, Leeds Electric Tramway Station, Leeds Electric Light Station, Edinburgh Electric Light Station, Glasgow Electric Tramway Station, Wellington (N. Z.) Electric Power Station, Alex Cross & Sons, chemical plant, and many others. In 1906 I was consulting engineer to Compagnie L'Union des Gas, in the High Courts of Justice, England. In 1907 I was consulted by the Link Belt Co., Philadelphia, for the purpose of determining whether or not it would be profitable for that company to organize a manufacturing plant to produce gas apparatus and equipment and design complete gas plants. From February 1907 to October 1908 I was engineer and agent of the Missouri Firebrick Co., St. Louis, builders of the first coal gas benches which utilized bituminous coal for heating the retorts. For that company I designed and built the first modern coal gas plant in Montreal. From October 1908 to October 1910 I was chief of the Gas Division of the Evens and Howard Firebrick Co., St. Louis. For that company I designed and installed the first modern coal gas plant used in St. Louis, Mo.

General Manager, Consolidated Gas Purification and Chemical Co., and the Atlas Paint Company (miners of iron oxide), and at the same time consulting engineer to Tennessee Mining & Manufacturing Co., and to Wm. H.

Lindsey; and to British Association, Incorporated (Coal land owners), October 1910 to August 1914.

[fol. 1016] August 2, 1914, engaged as chief gas engineer of the Public Utilities Commission of the State of Illinois. From July 1, 1918, to February 1, 1919, when on leave of absence from the Commission, I rebuilt the plant and partly reconstructed the distribution system of the Central States Gas Co. at Vincennes, Indiana; the coke ovens were rebuilt; a new coal gas plant was put in; new high-pressure transmission lines were laid through Illinois; and designs were prepared for water-gas plant. My principal reason for taking this leave of absence during the war, was to experiment with the compression of gases for the recovery of crude light oils to be used in the manufacture of explosives. In connection with this work I was appointed a member of a committee, formed at my request by President Wilson, on Toluol and Gas Standards, Bureau of Standards, Washington, in the year 1917. Before my work at Vincennes was finished, I was recalled by the Illinois Commission.

My agreement with the State of Illinois permitted me to engage in outside consulting work. In that connection I acted for the city of Lexington, Kentucky, and in 1919 and 1920 I was engaged by the District Attorney of New York, and by the City of New York, in connection with the 80 cent gas statute, on the Consolidated Gas Co. case, the Kings County Lighting Co. case, as well as on the Bronx Gas & Electric Co., the New York & Richmond Gas Co., [fol. 1017] the Brooklyn Union Gas Co., and other gas rate cases. While with the Illinois Commission, I had charge of the investigation of all gas rates and service matters, and made appraisals, surveys, reports and investigations of operating conditions in connection with every municipality in the State of Illinois. At times it was necessary for me, as the representative of the Commission, to direct and control the operation of Illinois gas plants and redesign the distribution systems. While with the Illinois Public Utilities Commission I was also retained by the North Carolina Public Service Commission to make an investigation, appraisal and report on the gas property of the Columbia Railway and Utilities Co., and was also engaged by the City of Anderson, S. C. to investigate the gas rates and act as referee to recommend reasonable rates, the tentative schedule being

submitted for the approval of the South Carolina Commission.

In 1918 I was appointed by the Illinois Commission special investigator of The Peoples Gas Light & Coke Co., having previously investigated the rates on two occasions. I then made an audit of the books, having at one time over seventy accountants, computers and inspectors as assistants at work on the case. From 1916 to 1919 I had charge of the appraisal work for the Illinois Commission in connection [fol. 1018] with the rates of The Peoples Gas Light and Coke Company, Chicago; and at the request of the City of Chicago and the Gas company, I was, with the permission of the Commission, allowed in 1919 to act as chairman of a conference of attorneys and engineers, which made appraisals of property of the company on five different bases.

In case 7689 I drafted the final order in the Matter of The Peoples Gas Light & Coke Co., for the approval of the Commission. Since leaving the Commission I have had charge of all gas and electric light investigations for the City of New York, including all of the cases in the Federal Court and the hearings before the Public Service Commission of the State of New York. Under my contract with the City of New York, I have done work for other States and municipalities. I was engaged in 1922 by the Board of Public Utility Commissioners of New Jersey to appraise the property and make a report on the operating expense of the Atlantic City Gas Co. For the municipalities of Jersey City and Newark, I was engaged in 1920 as engineer in connection with the rates of the Public Service Gas Co. of New Jersey. Since 1920 I have had charge of the engineering work in connection with the gas rate cases at Petersburg, Virginia, Newport, Rhode Island, and Rutland, Vermont. In 1921 and 1922 I investigated the annual reports of all [fol. 1019] electric companies in the City of New York and submitted reports thereon to the City authorities."

If I were separately interrogated as to each statement of fact set forth in those qualifications, I would answer as indicated in that statement. I have visited the production plant of the plaintiff. I have been there twice since this case began. I never had the slighest difficulty in getting access to the plant or access to the books of the plaintiff.

The plaintiff and its employees showed me every courtesy and willingness to co-operate with what I wanted to do. I had visited the plant of the plaintiff prior to June 1st, 1923—twice, at least, I think; maybe more than that, in 1919 and 1920. I am familiar with the territory served by the plaintiff company. I have gone through it for the purpose of making an examination of the territory served about ten times. I have also visited the offices of the plaintiff about four times since this case has been on, and twice before that. I have inspected most of the books kept by the plaintiff. The general character of the work done by me in assisting the defendant, the Attorney-General in this case, was supervising the work of the accountants, checking some of their work so far as it related to the testimony that I was preparing to give, and attempting to assist counsel generally by examining the testimony and the ex- [fol. 1020] hibits of the plaintiff's witnesses. I have attempted to estimate the reasonable and prudent investment in this plaintiff's property used and useful in serving the public as of June 1st, 1923. This pamphlet here contains a resume of the work that I have done in that connection. It represents an attempt by me to estimate the reasonable investment in the property and I think on page 1 there is set up all of the steps that I went through in arriving at the figures that appear upon the succeeding sheets.

Under the heading of Item 1 on Sheet 2 I set up the value of the tangible property, exclusive of land, and including capital as of December 31st, 1910, as per the Public Service Commission appraisals, inclusive of overheads and profits estimated by the commission's engineers in 1910, and I have set these up in detail as shown on Sheet 2. I have then added the preliminary and development expenses as found by the Commission, also the interest and taxes during construction, as per the public Service Commission's findings, and thus attempted to arrive at the value of the property on December 31st, 1910, exclusive of land and including floating capital. I left out the land value as found by the Commission and substituted therefor the assessed value of the land as shown in detail on Sheet 4 by lots and [fol. 1021] blocks. That amount was then carried forward on Sheet 3, on which appears the additions to fixed capital from December 31st, 1910, exclusive of land, as testified

to by Mr. Wolff this morning. I have shown year by year the figures that he obtained for me from the plaintiff's books up to May 31st, 1923, which coincides with the date of the starting of the suit and the appraisal put in evidence by the plaintiff. Inasmuch as Mr. Wolff had not taken out the retirements to the fixed capital that existed prior to December 31st, 1908, I made that deduction, having had the figures taken from the Company's books. I thus arrived at what I believed to be the net additions from December 31st, 1910 to May 31st, 1923, and to the total thus obtained I added an estimate of the reasonable amount of the floating capital or working capital, and the details of this floating capital appeared on another schedule that I prepared. I thus reached a total of what I state to be in my judgment the estimate of the reasonable investment in the property, inclusive of working capital, as of May 31st, 1923, although the working capital is intended to cover a sufficient amount to provide funds and materials for operating in the forthcoming year.

Sheet 3, Item 9 represents, in my opinion, the fair and reasonable cost of plaintiff's property engaged in the public service as of May 31st, 1923. So far as the sources of the information that I have used, I believe these items and [fol. 1022] figures correctly reflect those sources. I have had them checked by my assistants.

Mr. Hyatt: I offer that in evidence.

LITTLE

Preliminary:

I have not with me the decision or the opinion of the Commission in that case in 1910. It is in the printed volumes, and I give the P. S. C. reports Vol. II, 1911, page 692. It was set forth on Sheet 1 of this pamphlet. I have on Sheet 2 a figure of $1,747,570, which is taken from the opinion of the Public Service Commission, minus just the land, inclusive of overheads. The overheads they put in were not $120,000 interest. Initial promotion and organization $140,000.

In the figures appearing under Item 1, (a) to (s) both inclusive, there are some other overheads which clearly appear from the opinion of the Commission. That is con-

tractor's overheads. This appraisal was passed upon by the Appellate Division and the Court of Appeals and was affirmed except as to the treatment of going value. The order was reversed by the Appellate Division and sustained by Judge Miller, and that disposition made by the Appellate Division was sustained by the Court of Appeals in an opinion by Judge Miller. So the order of the Commission was annuled in a certiorari proceeding,—order annuled and matter remitted to the Commission. The order of the Court speaks for itself. I knew it was reversed, and sent back to the Commission, but, as I understand it, the values found were not reversed except as to the treatment of going value. What the effect of it was, is a matter for lawyers. But this figure on page 2 is not what they found it would cost to re- [fol. 1023] produce the property at that time. I went to the original records of the Commission and examined the original papers of the engineers and accountants to verify all these figures for this purpose and for other purposes. The Commission found, reproduction cost as of that time less depreciation, reproduction cost of the property as it was at that time. I don't show on this what the cost was to reproduce something new that was old or how much they deducted. I have not deducted a cent from the figures on page 3, except what you have naturally deducted when you required, physically retired something.

The first part of the exhibit Item 1, contains the accounts, the fixed capital accounts, titles of the fixed capital accounts employed in the Public Service Commission Uniform System of Accounts, general structures, furnaces, boilers, accessories, from A to S, inclusive. I have set opposite each one of those titles of capital accounts a certain figure, that appears in the Public Service Commission's decision, and it appears, as I remember it, in the Appellate Division's review, also.

General structures $18,553; the Public Service Commission shows the general structures at a larger sum than that, and there is a reduction made for depreciation, but I have not put in the final figure. I do not know from memory how much the deduction was there from the total. I don't know what they deducted. I examined the figures at that time, but they also set up many tables showing the amount of the annual depreciation on which they allowed operating

expenses to counterbalance the deduction for depreciation. [fol. 1024] The first figure is in Volume 2 of the Public Service Commission reports. It is a historical fact that the Public Service Commission in 1911 had before it a complaint concerning plaintiff's rates which were then one dollar, I think, and they made a valuation and fixed a rate of 80 and 85 cents, 85 cents for some years and 80 cents afterwards, and that came before the Appellate Division on certiorari and their order was annulled; they got leave to take it up to the Court of Appeals and the order of the Appellate Division was affirmed. I don't remember that the Public Service Commission took off over half a million dollars, for the value of the plant, but there are a lot of things counsel has said that I don't quite agree with,—as to the method of deducting depreciation and things like that. They did deduct depreciation, but I think it was agreed upon. The reversal applied only to going value. The order of the Appellate Division remitted the matter to the Public Service Commission,—not to ascertain going value.

Mr. Moran: Do you offer the order and the opinion of the Public Service Commission in evidence in its entirely?

Mr. Hyatt: Yes, sir.

Mr. Moran: I will object to that on the ground that it is incompetent, immaterial and irrelevant to this case. I would suggest, however, that the Master defer ruling on it. I might want to withdraw my objection later. However, for the present, I must stand on my objection. I might withdraw my objection at another hearing.

[fol. 1025] The Master: Objection overruled. It will be considered as Defendants' Exhibit No. 44.

(The opinion and order of the Public Service Commission referred to will be considered Defendants' Exhibit No. 44.)

Mr. Moran: I have no objection to this other exhibit that was offered previously, except that such as goes to the opinion and order of the Public Service Commission.

The Master: Then this exhibit entitled "Estimate of reasonable investment in gas property as of June 1, 1923, will be received and marked Defendants' Exhibit No. 45. (Received in evidence and marked Defendants' Exhibit No. 45.)

Mr. LITTLE

Direct:

If I were separately interrogated as to each one of these items appearing upon these four sheets, I would answer the same as appears on these sheets. (Piece of paper handed to witness.) This is an attempt to amend the fixed capital as of May 31, 1923, of the plaintiff, starting with the figure that appears on Mr. Cohen's exhibit produced this morning, being the cost of real estate, improvements and equipment as reported to the Board of Tax Commissioners of New York State on June 30, 1904, by the Kings County Gas & Illuminating Company, to which figure I have added the net additions to fixed capital as appears from the exhibits introduced by Mr. Eddy and Mr. Wolff this morning, showing by an addition which I have made, the fixed capital as of May 31, without deduction for accrued depreciation. To [fol. 1026] this I have added an estimate of floating capital, being the same amount as I have used in Exhibit No. 45 last introduced, thus arriving at what I believe to be an estimate of the reasonable cost to the plaintiff of the physical property acquired by it, exclusive of any consolidation costs, but including net additions and working capital as per my estimate. The last figure appearing on this sheet is what I have just testified to, the figure at the bottom of the sheet. And if I were questioned separately as to each item appearing upon this sheet, I would answer as indicated on that sheet. I have merely made additions on this sheet. I believe they have been correctly made. I have had the figures set out here on this sheet checked, and I believe they are correct as transcriptions.

Mr. Hyatt: I offer that in evidence.

Mr. LITTLE

Preliminary cross:

That middle column there "Prior to 1908" is the fixed capital as it appears on the books, according to the separation made by the Public Service Commission in its uniform system of accounts. You see down to 1908 you had additions to that column. Since then there could not be any

additions because that account was closed, its place being taken by the figures in the column adjacent to it on the left with the caption "Since 1908". For instance in 1908 there was added some $6,491.90 net. There may have more than [fol. 1027] that added and there may have been something taken off. That appears on the books as a net. I have not done a bit of adjusting there.

Take 1908, $208,520.63. I have not made any adjustment there. In 1909 the figure in parentheses, $6,399.45, is a credit to the fixed capital account, because plaintiff's books show that of the property existing prior to 1908, they retired in 1909 that amount of property. The first figure in the year 1909, $117,787.33, is the net added, after 1908, and there were $6,399.45 of property installed prior to 1908 that was retired. In 1909 the net additions to the entire property is $111,387.88 in that year. Land is included because I could not separate out from the opening entry on plaintiff's books in 1904 the land from the improvements or the equipment. If the waterfront land cost $119,000, that would be involved in that figure here of $2,441,997.40. If you go back and take the cost out there and add the present value down here—I think that would be the correct thing to do, so as to arrive at the present value of the land, which I believe the courts have held always must be allowed. That would be the way I would take that from my figure there, the cost of land. I did not know it. It is all in the record. We can take it out, and then we can add the new present value down there,—only one exception which I think must be taken into account, the Morse property, that which is leased to the Morse people. That also applies to the figures in Exhibit 45. I have included all of the land, including that [fol. 1028] leased. I took $2,441,997.40 from Mr. Cohen's exhibit, after comparing it with the finding of Judge Greenbaum, which was introduced in evidence. I did not get it from the tax report. I did not say I took it from the tax report. I was here when Mr. Cohen testified. I heard him say that he got that report from the Stevens Committee, and other things, too. With respect to the floating capital, I say "see separate sheets for details." Those have not been put in yet; not under working capital. It appears in the previous exhibit too, the same working capital. They

are drawn up for the convenience of the Master and represent what is already in except for the working capital, which I have added.

The Master: This will be received as Defendants' Exhibit 46.

(Marked Defendants' Exhibit 46.)

I left out work in progress each time—just took the ledger accounts of fixed capital, and this stops May 31, 1923.

Mr. Little

Direct:

(Pamphlet handed witness.) This is an estimate made by me of the working capital required by the plaintiff for the forthcoming 12 months of operation, consisting of five sheets. If I were asked specific questions as to the facts in this pamphlet concerning each and every figure, every one of the sheets embraced in this pamphlet, my testimony would be substantially as set forth on the said sheets. I have made certain computations in these sheets. Those computations have been checked several times by Mr. Menzer and other of my assistants, and I believe that they [fol. 1029] are all correct. I have attempted to put upon Sheet 1 everything that I used in arriving at my judgment of the proper amount and reasonable amount of working capital, on sheet 1 and on all of the other sheets. In connection with this statement, I have used the books of the company as stated in the pamphlet. On Sheet 5 there is a recapitulation of all of the items followed by a total amount at the foot of the page, Sheet 5. And the total appearing there on the bottom of the page is the result of a computation that I have made based upon my investigations of the books of the company and other sources of information which I have used in compiling the pamphlet. The amount of capital appearing at the foot of my recapitulation in this tabulation is the amount carried forward to the two exhibits already offered in evidence.

Mr. Hyatt: I offer that in evidence.

The Master: Received and marked Defendants' Exhibit 47.

(Pamphlet consisting of five sheets of typewritten matter handed witness.) It represents computations that I have made and estimates that I have carried out of the amount of gas to be made, the amount of gas to be sold, the amount of gas that the company may use, based upon the quality of gas that the company furnished in the year 1923, followed by an estimate of the reasonable operating costs of this company appearing in the first two columns of figures [fol. 1030] on Sheet 5, and on Sheet 6, taking into consideration the quality of gas that the plaintiff made during the year 1923 and leaving out the estimate of Federal income tax as set forth on Sheet 6, and on Sheet 6 there is also a recapitulation of the various divisions of cost appearing on the preceding sheets. Alongside of the two columns I have mentioned on sheets 5 and 6, showing the estimate, I have set up for the convenience of the Master the amount appearing on the books and the cost per M appearing on the books for the years 1923, 1922 and 1921, respectively. My estimate is based upon the books of the company and other records, the monthly report, that is other than the accounting books of record, including the monthly reports and other subsidiary books that the company keeps. Such transcripts as I have made from the books of the company, as well as from the monthly reports, have been corrected, as far as possible, and I believe same to be in every way right. And if I were asked as to each and every item here separate questions, I would answer as indicated in the various pages of this pamphlet.

Mr. Hyatt: I offer it in evidence.
Mr. Moran: I object to it.
The Master: Objection overruled.

In this record are the plaintiff's actual operating results in the making of gas, in the production and the distribution of gas for the calendar year 1923, and its books [fol. 1031] went in evidence for all the years. I am saying what it is going to be for the next twelve months. That means for the ensuing twelve months, ensuing from April 1st. I have operated several gas plants. So far as the future cost of making gas is concerned, if I had used the calendar year 1924, the figure that I give in this proposed exhibit would not be changed.

[fol. 1032] (Pamphlet handed witness.) This is an estimate of the reasonable operating cost to the plaintiff, the Kings County Lighting Company for the ensuing 12 months and likewise for the calendar year 1924, and ending any twelve months from January to December or from April to March 31, 1925. There are additional reasons, if I may put it that way, which led me to adopt the estimated figures appearing on Sheet 5 and Sheet 6 under the heading of "Estimate." My determination rests on other exhibits in this case, either of the plaintiff or the defendant.

On pages 5 and 6 of said pamphlet, said pages represent the different items entering into the cost of producing and distributing and selling gas and in other ways operating the plaintiff's property, setting up first the figures of the amount of gas that has been made in 1923, 1922 and 1921 respectively as shown by the plaintiff's books, also the amount sold in those years as shown by the books, this being supplemented by an estimate made by me of the gas that I thought will be reasonably made and the gas that should reasonably be sold and used in the ensuing twelve months, those being the twelve calendar months of 1924 or any period adjacent thereto, more particularly April 1, 1924 to March 31, 1925. I used the figures for the three years as shown by the company's books in assisting my [fol. 1033] judgment in arriving at the estimate shows on these two sheets. The plant records of the plaintiff and an examination of the territory being served and a consideration of the change that has been made in the art of gas manufacturing and in gas sales, but the estimate is based, that is the sales and the make, upon the quality of gas that was made and sold on the average during the year 1923 by the plaintiff.

I used the reports of the Public Service Commission that the plaintiff has filed with such Public Service Commission. In all cases, though the figures that were so used were taken first for convenience from the Public Service Commission's records as filed by the plaintiff with said Commission, and were afterwards checked back under my direction against the books and records of the plaintiff.

I used, necessarily so, the exhibits already in the case at bar. As to the first item that appears on Sheet 3 as marked on my estimate, which I have heretofore entitled as a pam-

phlet and in connection with my estimate of the reasonable cost of producing gas, in reference to Works Superintendence I took into account the amounts expended by the company in 1921, 1922 and 1923. I considered that in reference to Works Superintendence the amount would not necessarily be increased with an increase in the quantity of gas to be made in the period that I have used. However, I did make a note of the fact, following my examination of the plant, that within the last two or three years the character [fol. 1034] of the works superintendence has so changed and improved that in my judgment the amount to be paid to the Works Superintendence and the Engineer might reasonably be increased because of the efficiency being displayed by those responsible for the actual production of the gas. I therefore increased the amount paid in 1923 by $1,000, which does not represent my judgment of the total amount of the increase that might be given to the men responsible for the improved results, because the men thus paid to some extent devote their time to construction, and part of their cost is charged to fixed capital account. Therefore the $1,000 does not necessarily represent all of the increase to which I think some of these men might be justly entitled. However, that is what I have done, added $1,000 to the expense shown for the year 1922, after taking into account that the increase in the expense between 1922 and 1923 was less than $1,000.

The various columns appearing on this page have certain captions and in the captions on said page there is indicated a description of the method by which I treated this item of Works Superintendence. I have shown the amount that I think would be spent and the resultant figure in cost per M. feet, as to this particular item of Works Superintendence. To the particular item of Works Supertendence, I show here the amount that I believe is a reasonable sum necessary to spend for works superintendence for the period for which I have made my estimate.

[fol. 1035] In the production expense it is based upon the amount of gas that I anticipate will be necessarily made to sell the amount of gas that I think the company will reasonably sell. In other words so far as production is concerned, it is based upon the cost of make, and afterwards I take care of the cost of the unaccounted for gas.

Referring to the second item set there opposite which is an Arabic figure II entitled "Boiler house labor," as in the case of Works Superintendence, I took into account what has been done as shown by the books of the company. You will notice from Sheet 5 that this cost has been steadily going down, not steadily, but rapidly going down, there being $44,996 in 1921 and only $30,509 in 1922 and reduced to $26,990 in 1923. I have, however, included a figure higher than 1923, that figure being $28,612. That is for the reason that the boiler house labor will increase somewhat in proportion to the amount of gas that will be made, but not in direct proportion, in my judgment. I have taken into account that in recent years this company has made improvements in its boiler house, has put in automatic Coxe stokers, has improved the tar burners under the boilers which use that form of fuel, and has also installed in conjunction with its two new water gas sets waste heat boilers which will make the boiler plant proper of the plaintiff somewhat of a stand-by rather than the main source of steam production on the plant. I have taken into account that Mr. Bogie has in hand and perhaps now completed, further improve-[fol. 1036] ments to the plant in the form of an accumulator for storing up heat, waste heat, but have, as I stated before, raised the amount from $26,990 to $29,612 for the year of estimate. I similarly treated this item of boiler house labor as indicated in the captions appearing on said sheet, as I did with reference to the works superintendence.

Referring to the third item appearing on said page, set opposite which is the Arabic figure III entitled "Generator house labor," I took into account the amount spent in previous years, and it will be noted from the tables on Sheet 5 that this cost has also been going down. In 1922, for instance, it was $39,927, as compared with $51,246 in 1921. There is a slight increase in 1923 of about $2,000. I however increased this amount for my estimate over the 1923 figures by $3,500. In making my estimate I took into account that the company has recently put in large additions to fixed capital represented partly by improved type of three-shell water gas machines with automatic controls and in the arrangement for handling fuel and so forth to the generators and other improvements in handling of the clinker and ash taken from the generators. However, as

noted, I have taken into account that by 1923 I believe this labor cost had been more or less established after the introduction of the new machinery, and considering that I [fol. 1037] have estimated for an increase in the amount of gas that will be made, I have raised the amount that I anticipate might reasonably be spent by approximately $3,600. I treated this item, so far as the captions were concerned, in the same or a similar manner to that which I treated the two previous items.

In the item entitled "Miscellaneous Labor," set opposite the Arabic figure 5, I took into account the amount shown as expended by the company in the three years, set forth on Sheet 5 of the proposed exhibit. Miscellaneous labor is difficult to classify, as is evident from the name. It may represent idle time, for one thing, of men who can not be assigned to any specific duty at the time, but necessarily must be kept around the plant in case of a sudden change. It will be seen from the exhibit that I have raised the amount over that expended in 1923, and this amount is practically double what it was in 1921 and is higher than was spent in 1922, but miscellaneous labor will more or less follow the amount of the gas that is to be made, that is, the expense per thousand feet will just about go along with the increase in quantity. Really what I did there was to take the average of the cost per M for 1923 and 1922, omitting 1921 which was considerably lower. If I had taken a three year average, I would have had a lower figure, but taking the two years, I arrived at the amount of $17,084 for the estimated [fol. 1038] year. I have treated this item, so far as the captions appearing at the top of the respective columns are concerned, in the same way as the previous items. That is to say, I have shown the amount and cost per thousand cubic feet, by using the gas made as the divisor.

As to the item entiled "Boiler fuel, screenings," set opposite the Arabic numeral 6, I followed the lines that I used in working out the amount of working capital, as shown on one of the exhibits introduced on Tuesday. You will have to take into account in boiler fuel the solid fuel and the tar in conjunction. That is, first of all you ascertain how much tar you will have, according to the amount of oil used in making the gas. Having ascertained that, you take into account the total amount of boiler fuel, solid or

liquid, that is required. The balance over and above the tar you recover must be represented by solid fuel. In making up my estimate I took the exact pounds equivalent of solid fuel and tar fuel that was used by the company in 1923. I then made a calculation based upon what I believed was the reasonable amount of tar that should be recovered from each gallon of oil used in the manufacture of the gas. I then adopted figures used by engineers and checked by myself, showing the equivalent that a gallon of tar is to a pound of solid fuel. I thus arrived at what I thought was the equivalent amount of solid fuel represented [fol. 1039] by the liquid tar that the plaintiff should reasonably recover from the amount of oil that I have figured should be reasonably used in making the quality of gas set forth on this exhibit. The balance of the boiler fuel was taken to be screenings from the coke used as generator fuel, and I used the price that applies to the purchase cost of the coke used as generator fuel, inasmuch as that is the amount that is paid for it and of course must be charged in at that price. I have taken the quantity based upon the quantity per M used in 1923, with the exception that I have figured an increase in total amount due to the increased quantity of gas that I believe will be made. And I have treated this item so far as the captions appearing on Sheet 5 of said pamphlet, in similar manner to what I did the previous items. Boiler fuel screenings and the tar could not be separated. You must consider both. I did not use the boiler fuel screenings, for the reason I have given. I took into account not the amount of boiler fuel screenings used in 1923, but the amount of boiler fuel of both kinds used in 1923, all kinds. I gave my reasons for figuring the way I have figured.

"Boiler Tar" on sheet 5 of said pamphlet, as set opposite the Arabic number 7, as already explained, in arriving at the quantity, I figured this on the basis of the oil used or [fol. 1040] assumed to be used by me in making the quality of gas I have set forth here. As to the value of the tar charged into the boiler account, I have taken this at 4.75 cents per gallon, but believe it is immaterial whether I use this figure or any other figure, so long as I credit out the residual at the same price I charge it in, it being purely residual or by-product from the manufacture of the gas.

In other words, you will notice that Item 15, credit residuals, tar only, is exactly the same as the amount charged in as boiler tar. Insofar as the captions appearing at the top of the respective columns are concerned, I have treated this item in the same manner as I did the previous items.

Regarding the item designated "Water" set opposite the Arabic number 8, I took into account past use. I had no occasion to change the price, of course, for the purchase of water. It will be noted that the use of purchased water has gone down very considerably, due to economies in the plant and due to the new type of plant. In 1921 it was $13,244, reduced to $7,680 in 1922; cutting it in half in 1923, that is brought down to $3,399. Notwithstanding that the amount has been going down in 1923 as compared with 1922, I used an increased amount of water, purchased water, $4,556 as against $3,399. That explains that figure, I believe. I treated this last named item, in so far as the cap-
[fol. 1041] tions of the sheet are concerned, in the same way I treated the previously named items.

As to the item on this sheet marked "Generator Fuel" and set opposite the Arabic numeral 9, I used the quantity as shown by the company's books as having been used per thousand cubic feet of gas made in the year 1923, although after I had taken this quantity off the books, I noticed that there was an adjustment in January, in the January fuel account, being a surplus of 100,005 pounds, which I assume related to an excess in the inventory over the book inventory. However, that would not affect the figures very much. In other words, I used 33,978 pounds of coke, or a slight amount of anthracite with it, per thousand cubic feet of gas made. The details of the figures that I have used, may be more fully found in the exhibit introduced with reference to working capital on Tuesday. The price of the generator fuel I based upon the January, 1924, figure, and on contracts that were in force. I treated this item last named, so far as the captions of the page are concerned, in the same manner that I also treated the previously described items.

The item on the same page entitled "Water Gas Oil," set opposite the Arabic numeral 10,—I took into account the amount of oil used by the company in the year 1923, per thousand feet of gas made. The cost of the oil has been
[fol. 1042] going down and I therefore changed the price

to the figure that has been actually paid by the company and will be paid for the oil. The figure that I have used is shown in the contract introduced in evidence, which I examined, and the quantity contracted for is not more than the quantity I anticipate will be used, the total quantity. I used the figures that appear in said contract as the cost of gas oil for the period of said contract, and I treated this item, insofar as the captions on the page are concerned, in the same way as the previous described items. The quantity in that oil contract is sufficient to cover the amount I have named. It is a quantity contract. There is no date attached to it, that is, except the opening date.

"Purifier Supplies," set opposite the Arabic number 11, —I took into account that this is a fluctuating expense. In other words, you do not buy iron sponge or you do not make iron mass regularly. You do not put it into the boxes regularly, but only as required. This is evident from a study of the company's records as shown on Sheet No. 5, showing $7,262 expended in 1921, $4,634 in 1922 and $6,954 in 1923. In arriving at this estimated amount I averaged the 1923 and 1922 figures. If I had taken into account the 1921 figures, my amount and costs would have been somewhat higher, the average amount and costs, but since 1921, improvements [fol. 1043] have been made in the plants which permit of the longer use of oxide and greater amount of gas purified per bushel of oxide, and for that reason I took the two years as being the more representative of the future than three years. And so far as the captions appearing on the sheet are concerned, I treated this last named item in the same way as I did the previously described item.

"Miscellaneous Works Expense" set opposite the Arabic number 12,—I looked at the figures on the books of the company and I saw that this had been increasing in amount somewhat steadily, as revealed by the figures appearing on sheet 5, and I need not repeat them here, except to note that I have increased the amount over 1923 which was higher than 1922. I have increased the $25,698 to $28,473. I noticed there was an increase in the cost per thousand, as well as the amount in dollars, which appeared strange, in the miscellaneous works expense. So I therefore analyzed the account by months for 1923 and 1922. I found that in the first eight months of 1923 there was a decided increase over

the first eight months of 1922, but in September it went down, October it was up again, and November and December was considerably down as compared with December and [fol. 1044] November of 1922. I figured, however, that this expense should reasonably follow the increase in the amount of gas made in any plant, and I therefore increased the amount as already stated over 1923. My figure is somewhat over the average cost per thousand for the past three years, as to that particular item, No. 12. I treated this item, in so far as the captions of the respective columns are concerned, in the same way as I did the previously described items.

The next item, "Gas Storage Costs," set opposite the Arabic number 13—first of all, I examined book records. It will be noted from the summary set up, on Sheet 5, that there was an increase from 1921 to 1922 of less than $4,000. From 1922 to 1923 the increase was over $4,000. In arriving at my estimate I increased the 1923 figures by $7,500, which is higher than in any previous year. However, I took into account that as this company expands and its sales increase, the amount of gas that will be pumped, and the necessity for storing it some distance from the plant will necessarily increase the cost of storing the gas, not only in amount but in cost per thousand feet. I might have taken into account the fact that considerable and decided improvements are being made in the storage stations by the plaintiff. New engines, new boilers, new apparatus, and so forth, are being put in, but I felt that at the present time, until said new apparatus and equipment gets into work, that it was fair and reasonable to suggest an allowance of a con- [fol. 1045] siderably higher amount for gas storage costs than has been experienced by the company in the past three years. And so far as the captions of the respective columns are concerned, I treated this last discussed item in the same way as the previously described items. The next item is merely a total of the labor and material, as estimated by me in the one case and in the other cases as shown by the company's books. There is a difference per thousand of 2.2 cents; that is a reduction in 1922 for the assumed year, below the cost of 1923,—about 2.2 cents. You can not very well summarize it. I think my whole testimony this morning goes exactly to that point. It is partly

due to that fact. 1.3 cents is oil, and the rest is due probably to the fact that some things have gone up and some have gone down. As compared with 1922, counsel's 1923 figures were 13 cents less than in 1922. I have given my explanation this morning, and I gave all the reasons. That deduction in 1923 below the cost of 1922, as shown on my exhibit, is due mostly to oil. That is due to a better price for oil for 1923. The plaintiff did very well in its 1923 oil contract.

The next enumerated item is entitled "Gross Cost, Labor and Material," and the figures set opposite this item to the right represent additions of all the money figures that have gone before in each column, and those additions have been [fol. 1046] correctly made by me. They have been checked twice, and they more or less check themselves. I believe them to be accurate. All the computations involved in the figures appearing to the right of each of those items previously described on this sheet, have been correctly made, to the best of my knowledge and belief. Of the $915,777, over seventy per cent of it is for generator fuel and water-gas oil. The materials constitute probably eighty per cent of it. Take generator fuel, you have reduced the price of that. I have gone into the use of coke instead of anthracite, although anthracite is stored there. That was a good contract, which represents something I have been trying to get metropolitan gas companies to do for the past four years. There is a considerable reduction there. I am in favor of whatever you can get at the cheapest price, to make the most gas for the least money. And I say I admit I am right, to quote the well known saying amongst engineers. I will say this, that I have treated this exactly as all other companies in this vicinity and elsewhere treat it. I believe that plaintiff company is the only one that treats it the way counsel has treated it, and I will be glad to discuss it off the record or on the record or any way.

I would like to make just one explanation to the next [fol. 1047] item, entitled Credit Residuals, Tar Only, set opposite the Arabic numeral 15. I have mentioned tar only; in other words, there is no drip oil included there. I have included drip oil more as a residual of the Distribution Department than the works. You will notice further down in Item 43, the credit for drip oil, that is a calculation

I will later supplement. I merely want to show that the credit residuals in the Production Department refers only to tar. Item 15, as already stated, wipes out item No. 7. I have analyzed that item so far as the captions are concerned in the same way that I have previously described; that is, I have endeavored to treat it in the particular way that the captions indicate. In the next item indicated by the Arabic numeral "16" and by the title Net Cost Labors and Materials, I have made some subtraction there in reference to the figure, by taking the residual credit from the gross cost, I endeavored to arrive at the net cost, in my estimate. I have analyzed the figures with reference to that item in the same way as I have with reference to the items previously described and the captions indicate.

In connection with Works & Station Structures Repairs enumerated on sheet 5, opposite the Arabic numeral "17"— I also went into the past records of the company and noted a very large increase in the cost of 1923 as compared with [fol. 1048] previous years. I therefore analyzed this account by months and examined the repair orders. I found that in August, 1923, the company repaired the first three bents of the coal run to the dock, and placed footings under four legs of three bents, and replaced 90 per cent of the steel work. The excess in cost of repairs due to that item alone was $4,100 in August and $3,300 in September. In the matter of Repairs to Gas Works and other similar structures, they do not come regularly from year to year, and in my judgment I believe it wise and fair to average the repair costs. So far as the replacement of part of the structure was concerned, this would be questionable from an accounting point of view, as to whether it was strictly a repair or might be classed as a renewal or replacement, or might be even a betterment. I therefore averaged the costs in order to arrive at my estimate of the cost of repairs to works and station structures. On this exhibit are the total production repairs, estimated at about five-tenths of a cent per thousand less than we had last year. I can clear up all of that item of repairs to works, by saying that I adopted the plan of Mr. Justice Brandeis in the Galveston case, of averaging repairs, and before I averaged them I went into the details, examined the vouchers,

and examined the works repairs tickets in every case where there was assumed to be any abnormality, and then, as I say, averaged all of them over a period of years. I think [fol. 1049] without exception that would apply to every repair item shown on the production plant. In some cases I am higher and in some cases I am lower. Take the year 1922 and the cost of this item Works and Station Structures to the plaintiff. My estimate of the figure that the company had for the year 1922 is slightly less. About $1,100 less than in 1923. But it is $28,000 more than 1922, and it is $13,000 more than in 1921. 1922 was a low year, 1921 was a fairly high year, not unreasonably high. My half a cent is right there in that one item. I might say the furnaces, boilers and accessories I have increased by $3,000. I have reduced the "Works and Station Structures repairs by half a cent, due to the fact that the company repaired the first three bents of the coal run and placed footings under four legs of three bents and replaced ninety per cent of the steel work, as all appears on the face of the tickets. But that was necessary. You cannot estimate the following year by taking only one year into account, because you may not have such repairs again for ten years. Whether the installation of those fittings and the betterments made to the coal run should properly be classified by the plaintiff Plant Withdrawn from Service, and charged up to that account, or a replacement is problematical. The line that you can draw between repairs and replacements—better- [fol. 1050] ments, of course, are usually quite distinct; but between repairs and replacements it is pretty hard to draw the dividing line. That is a repair, of course, that does not occur every year. Therefore it should not be strictly classed as a repair. I think anything that covers more than one year becomes something that you provide a reserve for. The 26th item is the last one here. I have a great number of notes and a great deal of data back of all the figures I have used here. In some cases I have raised the amount and in some cases I have reduced the amount. I have, I believe, reasons for each particular one. I hardly think it is necessary to go into them in detail, but if any particular item stands out as being unusual and any explanation is needed, I will be very glad indeed to give it. I think right on the face of Sheet 5, that pretty near ex-

plains itself. You have in 1923 an amount $7,372. for Repairs to Works Holders. That compares with $1,264 in 1922 and only $779 in 1921. In other words, the charge in 1923 was about ten times what it was in 1921. As to my treatment of that, I averaged that up as appears, giving as my estimate $3,722, which is nearly three times as much as you had in 1922. In other words, that stresses the point I was trying to make, that repairs do not run regularly. To arrive at a normal amount you must take an average, and I have done so with respect to these figures. I have [fol. 1051] three years set forth in so doing, and in some cases I took even longer than that. I fully analyzed, I believe, the repair accounts, because I know from past experience that it does go up and down a good deal. There are no other items than the holder item in which I set up any differentiation between that which is the actual cost for the year 1923 to the plaintiff and the cost as I estimated it, based upon my system of averages, as described. I think that is covered by what I have testified to. At this point I have made certain additions in the various columns, entitled Total Production Repairs, opposite the Arabic numeral 27. Those additions are correctly made. The computations set opposite the various items that I have enumerated were made correctly and checked.

The next item enumerated as Item No. 28, entitled Cost in Holder of the Gas Made—those figures set to the right of that item are just an addition of Item 27 and Item 16. Those additions have been correctly made, to the best of my knowledge and belief.

The next item enumerated as Item No. 29, Cost of Gas Made But not accounted for, shows the cost of making the gas that is lost, spread over the amount of the gas that is sold. That is, the cost of unaccounted-for in this case is the exact percentage of the gas sent out that was lost or reported lost by the company in 1923. That is shown as [fol. 1052] 8.99 per cent. That percentage is 8.99 per cent. That shows a very considerable reduction over previous years, and it might be reasonable to suppose that continuing with the improvement there would be a lower percentage of gas unaccounted for in the next year, but I have taken the last year. That is what the plaintiff's books show. Furthermore, increasing the amount of gas sent out usually

results in a decrease of the gas percentage lost, but I have not made any reduction for that. This figure, I may say, is arrived at by dividing by the amount of gas sold, whereas the figure just ahead of it is arrived at by dividing by the amount of gas made. It is really the difference between the amount in Item 28 and the amount in Item No. 30.

With reference to the next item enumerated as No. 30, entitled "Cost in Holder of Gas Sold," that is the addition of Items 28 and 29. Those additions and computations involved have been correctly made, to the best of my knowledge and belief.

Distribution in my item 42—Total Distribution Expense, which is a total of items 31 to 41 inclusive, which shows for the assumed year 7.39 plus cents per thousand, indicate that 1923 expenses were 7.98 cents per thousand. There is a difference there of slightly over half a cent per thousand. I took into account a great number of things [fol. 1053] in arriving at the various costs shown in Items 31 to 41. In most cases I used averages after fully satisfying myself as to the reasonableness of using averages. In meter repairs I did not use the cost of 1923, which was $28,913, because meters are not repaired regularly every year, it depends on when you can get the men to do it and many other things. I raised that amount to $35,489, which showed a considerable increase over that year and over every other year. There are practically no deductions at all as far as I can see by looking at it now. The slightly lower cost of 1923 expressed in cents per thousand cubic feet of gas sold is attributable to a slight increase in the amount of gas that will be sold. In other words, all expenses of distribution do not go up in amount, as the amount of gas sold increases. That I think is obvious and has been taken into account by the Courts. But not withstanding that, my cost is within 6 tenths of a cent of your 1923 costs. My cost in dollars is higher, but my cost per thousand cubic feet is less than six tenths of a cent lower than in 1923, partly by reason of the increased sales of gas, but that does not explain it all, of course. For instance, our repairs to Meters will continue to go up as our sales increase, due to the increased number of meters, but the cost per thousand feet should go down or should remain about the same, whereas I have actually increased it over

the 1923 figure, 017 against 016. I could not tell at once that the unit price that I have allowed for meters is just [fol. 1054] the average of the three years. I might have reached it that very way. I might also say, that sometimes I get my dollars and sometimes I first get my unit cost and then get my dollars by multiplying the unit cost by the quantity—in those instances where I think the cost would go up with the quantity. Speaking actually about my exhibit here, sometimes I first obtain the unit cost either by averaging it or in some other way, and then multiply by the actual dollars. In other cases I had to get the dollars first and then multiply by the unit costs. Mr. Justice Brandeis thinks that is a good way to do it.

In Item No. 42, Total Distribution Expense—42 is an addition of the items 31 to 41 inclusive. To the best of my knowledge and belief those additions, computations involved and the figures in those various columns, to the best of my knowledge, are correctly made. I tried to make them so.

In Item No. 43 entitled "Credit Drip Oil," the drip oil is a calculation made by me based upon tests, based upon the records of other companies, based upon findings as to the amount, and is calculated by taking a percentage of the amount of oil used in the production of the gas. The price is arrived at by taking the average present selling price of drip oil as reported by the companies in the Metropolitan District selling drip oil.

Item No. 44, net distribution expense, is the result of de- [fol. 1055] ducting item 43 from item 42.

As to the items appearing on Sheet 6 of my estimate, and the captions at the head of the various columns of figures on said page, and the caption commercial expenses, and directing attention to the item enumerated as No. 45, entitled "Commercial Office," I have increased that amount by $21,000. If you are going to read the decreases in cents per M, I think we ought to in justice read the increases. Commercial expense does not necessarily go up with the increase in quantity of gas sold. 23-100ths of a cent reduction I think is generous.

Referring to the items enumerated as 45, 46, 47 and 48, as to what differentiation exists in my results as indicated on this page, and those which the books of the company

actually show for the years 1921, '22 and '23, I have used almost identically the same costs per thousand cubic feet in my estimate as appeared in the company's books for 1923. Before doing this I analyzed each account in each of the items 45 to 48 inclusive, as they appeared on the company's books. There is no change in commercial office expense per thousand of sales but there was an increase suggested by me of $18,000 plus in dollars. I made that for this reason, that I think the company has got about to the saturation point in its clerical force there and that it will have to add maybe more clerks in the office in order to take care of the additional accounts, if any. This [fol. 1056] includes meter readers and collectors. I only make the remark, because in other cases in which I have appeared I have been accused of using the same dollars and taking a high increase in sale of gas and merely dividing by a higher amount and getting a reduced rate. I want to say now that that is not what I did here, and it is certainly not what I did in the other cases. For instance, in Promotion Office Expenses, that account is divided into Promotion management, demonstrations and other expenses, architectural office, special investigation and house heating, and I analyzed each one of those accounts for several years back before arriving at the final figures shown here, and I did the same thing with the advertising. In each case I did not arrive at that by first arriving at the unit cost. It is slightly reduced, per M.; I have .213 for 1924 and .214 for 1923, per the books. It is .212 for 1922, so my nominal year is just between 1923 and 1922, but 1921 was .0132, so I did not take an average of the three years. If I had, it would not be the same. An average of the last two years looks reasonable. That is what it worked out at. The 1923 expense for advertising shown was more than twice the 1922 expense, and considerably more than the 1921 expense. I examined vouchers and these showed that a considerable amount of this advertising expense was advertising securities for sale. That is the capitalization item might have been charged to fixed capital. I took an average for two [fol. 1057] years, which would be $7,484. I have called this a round figure of $8,000. The need for advertising in a territory such as this is problematical, except that it is always a good plan for a gas company to give some of its

advertising to the newspapers. That is well known among utility operators. It is on acount of the needs of the papers rather than the needs of the consumers. You can sell more gas than you can reasonably make, I think, in the near future. It is a matter of holding back your development. I have given more than an average of the past two years. When I say given, I am not exactly giving, but I have suggested.

The figures to the right of item No. 49, Total Commercial Expenses indicate my estimate of the amount that will be reasonably spent, might reasonably be spent in the twelve months for the accounts embraced in the item commercial expense, and they represent additions and computations. To the best of my knowledge and belief, such additions and computations were correctly made.

Referring to the next general heading "General Expenses," items 50, 51, 52, 53, 54, 55, 56, 57, 58 and 59,—the unit cost is about 2.6 cents less for the nominal year than it is for 1923 practically all on renewals and replacements. Just to clear a little matter on the record—on Tuesday, counsel said I was reducing the President's salary or doing [fol. 1058] away with the President, or something like that. It shows that plaintiff cut down the salaries and expenses of general officers for 1923 from 1922. That might have been expenses, of course, but my figure for the next twelve months is higher than its figure for either 1923 or 1922. I did not say that the mere fact that that figure is $32,558 for 1923 and it is $33,055 for 1922 does not mean that anybody's salary was changed. I say it may be due to the expenses. It may be due to the allocation of those salaries between operating expenses and fixed capital. Counsel kind of put something into the record yesterday that I was slashing and cutting the salaries and things like that, and I thought that perhaps might be corrected. There are increases in the amounts all the way down the line from 50 to 56. But coming to 57, which is the matter of renewals and replacements, there is a very decided decrease. I have arrived at my figure by taking an average per thousand cubic feet of the actual property retired on the books of the company from and including 1917 to 1923. In other words, I went to the books, examined the reserve account, examined the retirements, both by amounts and by the char-

acter of the structure retired, and after giving consideration to these things I arrived at a figure of .8 cents per thousand as being the average amount of property retired in the past [fol. 1059] seven years. I also examined the amortization reserve as it was set up on the books of the company, and I noted that in 1917 this was credited at the rate of 1 cent a thousand. They credited the reserve with $10,510.46, but the actual amount of property retired in that year was $2,592.21, which brought the balance up at the end of the year 1917. In 1918, while they still credited the reserve at the rate of 1 cent per thousand feet, the credit amounting to $12,328.50, the company actually retired property on its books to the amount of $8,821.05, so the reserve in the amortization account increased in 1918 by over $6,000. In 1919 they were setting up a cent a thousand feet of gas sold, and the amount credited to the reserve was $12,872.46, the debit to that account for the year 1919 by property withdrawn from service as shown on the company's books amounted to $3,196.80, so here again the balance in the reserve was increased, this time by over $9,000 in the year 1919. In the year 1920 the company changed its plan and set up the reserve at the rate of 3 cents a thousand feet, notwithstanding that the amount set up on the one cent basis had been more than was needed to actually take care of the retirements from the property during the years when this one cent rate was used. In 1920, as I say, the rate being 3 cents, the credit was $46,460.98, the debits being the amount shown on the books as property retired or withdrawn or abandoned was $23,340.04. Here again the amount of the [fol. 1060] balance in the amortization reserve or renewal and replacement reserve, or whatever it is now called, was increased this time by over $13,000. In 1921, with the 3 cent rate, $48,874.42 was set up but only $5,019.69 was actually needed to retire on the books property that was withdrawn. In 1922, at the 3 cent rate, $45,961.66 was set up, but the amount needed to withdraw property from service and debited to the account was only $7,465.16. In 1923 the amount set up at 3 cents per thousand feet was $54,090.21, but the debit amounted to only $23,577.57. In other words, from 1917 the balance in the reserve increased from the amount of $59,746.70 to $201,910.62. For the reasons stated, I therefore arrived at the figure of .8 of a cent

per thousand as representing the actual practice and needs of the company, as I viewed them, as appearing on the books from 1917 to 1923 inclusive. Of course they might have increased that if they had charged the sum of these repairs, but then the operating expenses would be reduced. This is operating expenses, but the company's repair account would be reduced, taking it out of one hand and putting it in another. I reduced the company's repair account to the works in some places by considering some of the repairs somewhat unusual. Therefore I averaged them just as I have averaged the renewal and replacement account. In some cases I increased the repairs over the 1923 figure. [fol. 1061] I have .8 of a cent here as against 3 cents appearing in the company's 1923 figure, which would make 2.2 cents difference in these general expenses. 2.6 and 2.2 of it is accounted for by the difference in the renewals and replacements, for which the company used 3 cents per thousand, and I used .8 of a cent. I will say this, if you want to take it, that the properties are depreciating at a greater rate than is shown by the actual withdrawals. In these retirements that the company actually makes, withdrawals of property, it charges part of them to this reserve and charges another part of them to surplus. That is property installed prior to 1908 which is withdrawn, is charged to surplus. I took that into account and I took into account also that plaintiffs do not retire at the amount that it appears on its books prior to 1908.

Mr. Moran: Mr. Gonnoud has been whispering to me that the retirements appearing in two accounts, one the reserve and the other the surplus, and I just want to get at the retirements which indicate the amount of retirements in those seven years. Did you include those which are charged to the reserve as well as those which are charged to the surplus?

The Witness: It does not give you the true facts, but I will say yes, to your question.

I went back into the books to see the retirements that [fol. 1062] have been made of property installed prior to 1908, and I found that you made practically no credits to the fixed capital at all. I analyzed every piece of apparatus plaintiff removed—I was particularly interested in the old coal gas plant, and I find that that was retired from the

books at about $3,016, I think it was, and it was called old iron and bricks. I think I have already fully explained just how the plaintiff has treated on its books the item dealing with the retirement of the coal gas plant. I think that is on the record now. It is not what I believe it should have been retired at, instead of as scrap, but what the rule is that it is to be at its original cost, estimated if not known. The amount remaining in the fixed capital account would be greater than it should be, I believe. In other words, in order to do it fairly according to the rule, it would be necessary to retire the coal gas plant at its cost. And I do know this, that four benches of inclined retorts could not be put in for anything like the amount shown as the withdrawal, and the amount I have reference to stated to be a retirement in 1909 from fixed capital is $1,062.16 old iron and $3,125 of fire brick, etc., which does not take into account the car destroyed, because I don't know whether the car was in connection with the coal gas benches or not. I [fol. 1063] have got an average of the cost of the property retired from 1917 to 1923.

In ascertaining the amount of the company's retirements from 1917 down to 1923, inclusive, I have not taken the amount of retirements that are charged to the reserve plus the amounts that are charged to surplus—just the reverse. Some of them were charged to surplus, properly retired. When plaintiff charged them to surplus, it did not write it off at the proper amount. I did not say anything different than Mr. Gonnoud, who said that they actually do since 1917, and long before that, retire the property according to the rules of the Public Service Commission; it is cost where known, and where not known it is estimated cost. I am speaking about 1909, that was after the Commission came into existence. That one instance I know of that plaintiff did not do it. From 1917, to find the average cost to this company of property retired since 1917, I took all of plaintiff's retirements as credited to the amortization reserve and no more.

Mr. Moran: But, Mr. Gonnoud tells me, and I know the rules require, that where property was installed prior to 1908 and it is retired in 1916, '17 or any of those years, you should not charge it to the reserve, but charge it to your

surplus, and that is the way they are doing it, so you have left out some of our retirements, apparently.

The Witness: To save time, I would sooner look that up [fol. 1064] after the adjournment.

LITTLE

Direct:

The plaintiff commenced in 1920 to charge to operating expenses the sum of three cents per thousand cubic feet of gas sold for plant withdrawn from service. I have given all the figures already in the record as to how plaintiff ascertained for each year how much it had collected under that item subsequently. And with respect to each year, I have read those figures in the record and gave the differences in each case between the actual amount of the cost of plant withdrawn from service and the actual amount that they had collected under the item that I spoke of. So that there was a sum in excess collected from the consumer and charged to operating expenses over and above what was actually expended. I think the company ought to have the use of that excess, but I think for the future the amount set up should bear a direct relationship to the amount needed to withdraw property, whatever it is. I believe that the amount collected, namely, three cents, should be reduced to conform to the facts. Now with respect to the excess sum that they have already collected, I think it should be treated as a reserve and be in the ownership of the company. I believe they ought to have some leeway to go on. Whenever it is favorable to the company. I am more favorable to the company than one realizes. One cent was ample. In my treatment of this plant withdrawn from service item, I have in estimating the future cost of making the gas within [fol. 1065] this period, set up eight-tenths of a cent here as what the records show. I am just setting up the facts. I think there is room for a difference of opinion on that. The computation and addition, following item No. 59 as enumerated, is the total of the preceding items up to No. 50. I think those computations and additions were correctly made, according to the best of my knowledge and belief. In the heading here entitled "Taxes," which includes items 60 to 68 inclusive, I have set up exactly the cost per M

as expended in 1923 as shown by the company's books. I am not attempting to set up my opinion or judgment or anything else on the matter of taxes, because that is something I do not know much about. I have omitted the Federal Income tax because I could not take into account what that was based upon last year's operations, because the taxes will depend upon the rate of earnings, and it will depend upon the rate of tax and depend upon whether a dollar rate is in effect or something higher, and it will depend a good deal upon whether my estimate of operating expenses was right or whether some addition should be added to it or something deleted from such costs. And it will also depend to some extent upon the outcome of this legislation proposed at Washington by Secretary Mellon and by Congressman Gardiner. I have used the same figures as disclosed by the plaintiff in his books, except for the Federal [fol. 1066] income tax, which I have not included, as set forth fully on Sheet 6.

The figures in the item here entitled Total Taxes and certain figures to the right of that are merely an addition of the items up to 60 ahead of that. Those additions and computations have been correctly made to the best of my knowledge and belief.

In the item enumerated as No. 69, Credit, Miscellaneous Revenues, I deducted the miscellaneous revenues for the reason that the expenses of obtaining miscellaneous revenues are included in General Miscellaneous and other commercial expenses of the company, as shown on its books. You cannot separate the expense of obtaining miscellaneous revenues from the amount that has been charged on the books of the company as gas operating expenses. I have used a less amount and a less cost per thousand than in 1923 for the reason that I think, and my investigations seem to bear me out, that the amount of business done by the company in that year was exceptionally high. In other words, there was an enormous amount of building going on and there was a great deal of gas appliances sold and good profits were made. I therefore thought they could not keep this up; in other words, in the one year they might saturate the territory. I don't know that I formed any judgment as [fol. 1067] how much it would be; however, to be on the safe side, I averaged this over a period of years, and the figures

to the right of this item represent the credits as obtained by me.

The recapitulation is merely a recap of the various items as shown, as indicated under the head of the word items and as numbered below. Opposite the Arabic numeral 70 the figures shown to the right of that item entitled "Net Cost of Gas" represent my opinion as to the fair and reasonable cost of gas to the plaintiff for this period that I have treated in this proposed exhibit entitled Estimate of Reasonable Operating Costs for the Ensuing Twelve Months. Of course the comparison is not quite exact when you come down to the recap, because in one place they have the Federal Income Tax, and I have not, so that you cannot draw any direct comparison from the recap beyond item No. 59. If I were separately interrogated about each item, where a statement of fact or a conclusion in the form of an opinion, as they appear on the various pages of this pamphlet enumerated as Sheet 1 to Sheet 6, inclusive, my answers would be as indicated on those pages.

Mr. Hyatt: I offer it in evidence.

The Master: It will be received and marked.

(Received in evidence and marked Defendants' Exhibit No. 48.)

(Witness handed a sheet of paper.) That is a graphic [fol. 1068] chart that I prepared, showing the cost of gas by principal items, the cost of the gas sold, the production cost, the cost of material, the cost of labor and the cost of the repairs separated month by month from January, 1922, to February, 1924, and alongside of it, the heavy black lines on the right hand side show the cost of the gas for 1921 and the cost of producing the gas sold, also for 1922 and for 1923; and alongside of it my estimate for 1924. Those are all shown on the books of the plaintiff, with the exception of the estimates, which is the heavy black line on the right of the sheet. On the left of course is shown the cents per thousand cubic feet, and on the bottom are the various months of each year that are taken into account. The black lines are annual, whereas the outline lines are monthly; the cost into the holder, inclusive of the cost of the leakage. They are comparative, that is, the first one goes clear up

to 77.50. In other words, the divisions on the chart represent five cents, and anything in between there is according to the various divisions. That means that in 1921,—77.5 cents per thousand cubic feet of gas sold in the holder, just the production cost, leaving out distribution cost, commercial offices, and so forth. That is, it cost 77.5 cents. It is half way between; the cost into the holder was 77.5 cents per thousand. I have all of the figures. That is the cost [fol. 1069] of making the gas sold. In other words, I absorbed the cost of the unaccounted-for, and then the cost went down in 1922 close to 56, and in 1923 to less than 50 cents. That is according to plaintiff's exhibit. The next one, 45 plus, is according to my exhibit just received. I haven't got any income tax, in the production cost. In other words, it is the principal costs, all the labor and material items entering into the making of gas. I haven't got any of those disputed items in there. It really shows the principal labor and material items.

I have enumerated all the sources of this graphic representation on this sheet. The figures were taken from the monthly reports of the plaintiff. That is, the monthly reports from the books. Some of the work was done by Mr. Kelly and others, and this work has been accurately and correctly done, according to the best of my knowledge and information, and checked over to see if it was correct.

Mr. Hyatt: I offer it in evidence.

It is self-explanatory in so far as the line appearing at the top of the page is concerned, indicated by A, B, C, D and E. Line D represents the total labor cost per thousand cubic feet of gas sold. It includes just the expenses into the holder. That is absorbing the amount of unaccounted-for. It does not include the distribution; the labor in the making of the gas sold. The trend would be the same. That line also connects up with the five cents on the side; they [fol. 1070] all do. Labor went up to as high as 7.5, and the other one is repairs. They run along all the months, except that in 1923 they shoot up there in August. August is the high point. August, 1923, is the high point in those two years. I have carried them into January and February, 1924. I have "March" there. I was going to put March on, but I didn't get it in time to put it on the chart.

It can be done easily, though. The top lines show the trend per thousand cubic feet of gas sold, but only included in the production cost of the gas sold. A represents the total cost into the holder. That is the cost per thousand feet. The difference between A and B is the leakage cost, that is practically what it means. You might take the difference between what is shown by B and what is shown by A, and that is the cost of losing the gas that you made. In other words, if you divide by the amount of gas made, you get the line B, and if you divide by the amount of gas sold, you get the line A. Take the line A for 1922, and get the mean average of it. It would come out at 55, just as the black line does. The heavy black line is the yearly average. It would be A that would come out on that line, because it is weighted. Although the gas cost plaintiff a higher amount in September, 1922, plaintiff *it* did not make as much as when it was costing it less. So you cannot draw a line through to get an average point, you have got to take the [fol. 1071] quantity into consideration as well as price. C is the material, and that includes gas oil and coke, that is monthly. Every bit of material that is shown. A single month's figures are more or less unreliable, but you take a series of months—that is why I put the yearly figures on, as shown here. If one sits down and studies the horizontal line, I think there is quite a lot in it. It shows how they fluctuate, for one thing, so that you cannot take three months alone. The line B is not necessarily the total of C, D and E. Only in the one case you would get the difference, and that is between A and B, one representing the cost based on the gas made, and the other on the gas sold; therefore the difference is the leakage, but each one otherwise stands on its own basis. In other words, C is not the product of D and E, but is merely the cost of the materials, but if you add C, D and E, you would get B. My point is to show what I have explained in my testimony as to my estimate, that my estimate is lower than plaintiff's figures, but it is not unreasonable to expect that it would be lower. My estimate for 1924 is higher than the most recent month that I was able to examine, but should not be compared with plaintiff's figures for the month of February, because in August, you might have an increase again per thousand due to the

lower amount of sales. In other words, it adds a verification to my estimate in a way.

Mr. Hyatt: I press my offer.

[fol. 1072] The Master: It may be received and marked.

(Received in evidence and marked Defendants' Exhibit No. 49.)

[fol. 1073] Brooklyn, New York, May 8, 1924.

MARK WOLFF

Direct—cont.:

As to certain sheets of paper I have in front of me, the first three sheets are entitled Public Utilities Bond Sales, Exclusive of Transit Companies, New York Stock Exchange, Week Ended April 12th, 1924, From Table of New York Times of April 14th, 1924, shows the bond sales during that week of all public utility companies with the exception of transit companies. The last column headed Yield shows the rate of return to the investor counting to maturity; in other words, spreading the discount or premium on the bonds, as indicated by the price over the period which the security is to run. This exhibit is intended to substitute one sheet marked with the same number 41 when I testified last. The only difference is that it contains more items of sales, so that the first exhibit did not contain all the sales on the Stock Exchange during the week of April 14th, and this substituted one is intended to cover everything, with the exception of transit companies.

[fol. 1074] Cross:

This is brought in here because the sheet I brought in before, which was marked Exhibit 41, did not contain a complete statement of what appeared in the New York Times. I stated that if my statement did not contain the complete list what was left out was by inadvertence, the intention having been to show a complete list. If the record shows that I testified that it did contain a complete list of the bonds appearing in the New York Times, I do not think the record is wrong, necessarily. I have not read my testi-

mony. I remember distinctly of having called to my attention the fact that no Brooklyn Edison six or seven per cent bonds appeared upon my list, and that I said there were no sales of them, and of being told by counsel he was very much surprised, that he had never seen an issue of the New York Times that did not have sales, but I stuck right to my statement that I thought it contained them all.

Mr. Moran: I have no objection to this statement, but I think it ought to go in as superseding the other, the remain in and numbered, and this given a new number, superseding the other one, because it will be confusing unless we do.

Mr. Hyatt: I have no objection to that.

Mr. Moran: Because I was examining about it, and I said "your exhibit does not contain," and I don't want, when [fol. 1075] this record is reviewed, to have it appear that this exhibit was before me when I was examining the witness.

The Master: Then we will have this marked Defendants' Exhibit No. 50, and it is to be deemed as superseding Defendants' Exhibit No. 41 heretofore offered.

(Received and marked Defendants' Attorney-General's Exhibit No. 50.)

Mr. Hyatt: I object to the characterization of counsel.

The Master: There is no jury here to be prejudiced by it.

Mr. Hyatt: I know, but it is very improper. We did not characterize his witnesses, and I don't see why he should characterize ours.

The Master: Now, the next question?

Mr. Hyatt: Your Honor denies my motion to strike out?

The Master: Yes.

Mr. Hyatt: Exception.

[fol. 1076] Direct:

The statement entitled "Public Utility Stock Sales, Exclusive of Transit Companies, New York Stock Exchange, Week Ended April 12th, 1924," is from the table in the New York Times of April 14th, 1924, and shows all the issues traded in during the week referred to on the New York Stock Exchange. The last column shows Yield, which was computed on the basis of the lowest sales price obtain-

ing during the stated week. This statement contains some issues additional to the original statement offered and received and marked Exhibit No. 42. There is a further correction made in here of an error appearing in the New York Times that morning. The Pittsburgh Utilities Company Preferred Stock was shown as bearing a dividend of $1.65. As a matter of fact, the dividend is at the rate of 3½ per cent regular semi-annual, and 2½ per cent extra dividend, the extra dividend having been paid for the second time, Dividend No. 2, the same as the preferred dividend, the last one having been dividend No. 2, so that the rate of return here shown is on the basis of 12 per cent on par which, at the lowest market price obtaining during the week ended April 12th, 1924, is on the stock 10 per cent.

[fol. 1077] Cross:

These are all the public utility issues that are dealt in on the Stock Exchange, of listed securities during the week ended April 12th, as appears by the New York Times, with the exception of transit companies. There are thirty, including telephone, telegraph, water, gas and electric. That is all that there are for a week with the exception of the transit companies. There are about thirty issues. I do not count the Philadelphia Company twice. Common is counted one as an issue, and so is the preferred counted one as an issue. There are twenty one separate companies on my statement. The stock from only twenty-one companies were dealt in, according to the New York Times, in the week ended April 12th. Three of those are local companies doing business in the City of New York. They are Brooklyn Edison Company, the Brooklyn Union Gas Company and Consolidated Gas Company. The American Telephone & Telegraph Company is not purely a local company. It is a nation-wide company. The Brooklyn Edison Stock sold on the basis of 7.24 per cent, and the Brooklyn Union Gas on the basis of seven per cent. Consolidated Gas sold on the basis of 8.15 per cent. That is, that was the yield that the investor in them would get on the rate of dividend that they were then paying. That yield is based upon the [fol. 1078] lowest price obtaining during that week, which would give the highest yield for the week. This only is

brought in because it contains issues that were not mentioned on my previous exhibit. That one item I mentioned, the Pittsburgh Utilities Company is brought in to make correction. That is the only one I know of.

Mr. Moran: I have no objection to this exhibit superseding the other.

The Master: It will be received and marked Defendants' Exhibit 51, supplementing the previous exhibit No. 42.

(Marked Defendant Attorney-General's Exhibit No. 51.)

Redirect:

The items indicated on that sheet now marked in evidence are mere transcriptions from the record of the New York Times, of the particular week indicated on the sheet, except as to the last column, which is a computation.

[fol. 1079] ARCHIBALD S. B. LITTLE

Direct cont.:

I have read the testimony that I gave on last Thursday. I have those corrections of the testimony so given by me with me.

I do not want to read these in.

The Master: I take it then it can be physically changed by stipulation on the record or wait until he completes the entire testimony and make all the corrections he wishes at that time. That will save the time of the ourt, and the witness and counsel and everyone else.

The Witness: I tried to save the ourt's time in this way, but I thought I would have to get the corrections in before cross-examination commenced.

The Witness: I have copies here that I can hand to counsel, and they can look them over.

The Master: I would suggest that be done.

What I have indicated on that sheet by way of correction is what I meant to say in response to certain questions in the testimony. Answering that question put by plaintiff's

counsel at page 3658 there is a distinct change. I testified to advertising, that a considerable amount was charged up to operating which I thought was capital account. I was relying upon my memory, and I want to change that. That wasn't in this case at all. Page 3658. That is changing [fol. 1080] my testimony, that is just what it is. When the changes are made as indicated in the list which I am handing to the stenographer, my record is complete now, it shows them clearly. I made some calculations of the cost per thousand cubic feet of gas sold of the income tax paid to the Federal Government, showing what the Federal income tax would be based upon the dollar rate and based upon the operating expenses as estimated by me, and taking the Federal income tax rate as it is now. The estimated tax at the present rate as charged by the Government would be $29,274.32, which is equivalent to 1.43 cents per thousand cubic feet of gas sold based upon the estimated amount to be sold in the ensuing year. I have completed my answer to that question. I have never made 650 British Thermal Units gas consciously. I have manufactured illuminating gas. I specified in my qualifications where I manufactured illuminating gas, I never consciously furnished 650 B. T. U. gas during that period of experience. When I first read the statute I thought "furnish" meant testing the gas at the plant or close to the plant; I have thought it over since and looked at some dictionaries, and I do not know what "furnish" actually means unless it means delivering gas to each and every consumer. I have nothing to base my calculations on as to what the cost would be to deliver to each and every consumer a gas containing a minimum of 650 B. T. U.'s per cubic foot. There are dozens of factors [fol. 1081] that I would have to know or someone would have to include in a hypothetical question before I could give my answer whatever as to the probable cost of delivering and furnishing 650 B. T. U. gas as a minimum throughout the year or throughout a period of years. Temperature conditions have a great deal to do with it. Assuming that the question was directed to this point of manufacturing 650 B. T. U. gas tested a mile from the works holder, that could be figured easily. Assuming the question were directed to the value of the heat content of the gas as it

leaves the plant, I have not put anything on paper, but I could estimate that, I believe, with the figures that I have. In my investigation I found retirements charged to surplus. I looked that up, for the same years that I included in renewals and replacements that were charged to amortization reserve or the renewal and replacement account. That is from 1917 to 1923, inclusive, relating to property installed prior to 1908. This I found was charged to surplus in the following amounts:

1917	$485.85
1918	5,977.36
1919	214.68
1920	2,692.77
1921	38.17
1922	60.45
1923	1,598.79

[fol. 1082] or total for those years that I have stated, charged to surplus, of $11,068.07, which is equivalent to .00112358, which should be added to the .007512382, which was the actual amount charged to renewals and replacements in the same period, which last figure I rounded out in my estimate to 8-10ths of a cent. My sheet 6, Exhibit 48, item 57.

LITTLE

Cross:

My Exhibit No. 47, generator fuel for three months, that is on the working capital exhibit. The amount $90,689 of generator fuel that I think plaintiff might reasonably keep in stock for guaranteeing efficient operation of its plant. It is enough to run three months approximately based upon the increased amount of gas made. It would be one-fourth of the company's total generator fuel for a year.

Sheet 5, item $351,272 for generator fuel, is the amount that I think the company will actually use, the amount and the cost of what it will use in the twelve months following, to which I have been testifying. It does not necessarily tie in with Sheet 1 on Exhibit No. 47, because in working out the working capital exhibit I usually set up the factors that I take into account and then use my judgment in arriving

at the proper amount of generator fuel, and I at present do not see any reason to change either of the exhibits. With respect to Exhibit No. 48, I used in a number of cases the [fol. 1083] results shown on Exhibit No. 47 as the basis for this exhibit. My recollection is neither to that effect nor against it. I don't remember. I am not trying to dodge. I do not intend exactly that they should tie in any way. I have down here as the probable cost—I think that is the best term to us—of water gas oil to this company in the twelve months, say the twelve months of 1924—$306,631. That is for a certain number of gallons of gas oil at a given price. That is the price under plaintiff's contract. I do not think the company's contract runs for the full year. There is no date on it for the termination of the contract. It is purely a quantity contract. I am not quite sure whether there is oil enough bought under that contract to provide for the year's requirement. I will get copies of the contract and refresh my recollection. In figuring out the probable cost of gas oil, I have to have a fixed price per gallon covering the quantity that the company requires, in order to be sure about the amount of money that it will have to pay for gas oil. I have inquired whether the company has. I looked at its contracts, I looked at the contracts made by other companies in this neighborhood; I have studied oil journals, I have studied statistics issued by the Government as to the amount of oil available and the stocks. I have examined prices; I have formed an opinion as to future prices of oil to limited extent. I do not like to prophecy very long on oil. I have figured here on the company's [fol. 1084] contract price. I attempted to figure on its contract price. I knew the amount when I made up this exhibit. (Paper handed witness.) I figured that plaintiff's contract would cover more than a year, from January to January. It does not run from January to January. I could not tell exactly when it runs from and to what date, from this without referring to the previous agreement dated August 8, 1922, because it begins at the expiration of the previous contract. This one (indicating) is dated September 5th, 1925. I believe I have some figures on that. It was some little time after that, as I remember it now, from examining the company's records of stocks of oil on hand that plaintiff started to take oil under this contract. This

provides for nine million gallons of oil, and I estimated that was a supply for slightly less than fifteen months' supply. That is based upon the quality of gas plaintiff has been making, not 650. In 1923 plaintiff used 5,604,166 gallons; I figured on 6,455,384 gallons. I believe plaintiff can make a good deal more gas than I have actually figured. It would be over fifteen months. Nine million gallons of oil are sufficient for more than fifteen months. I have said I used plaintiff's contract price for the whole twelve months, after checking up with the contracts, which I did not have before me, because counsel said we will go to something else until the contract is found. This number of [fol. 1085] gallons of oil here is at the contract price specified in the contract which we have at the present time. I have $306,631 for gas oil; that is at the contract price, the contract lying on the table before me. (Witness makes computation.) I stated before 6,455,394 gallons anticipated to be used. The basis of my anticipation is the actual use in gallons per thousand feet, that the company used in the year 1923, multiplied by the amount of gas that I have figured it will make for its requirements in the period that I have covered in my estimate. I do not think it appears in that way in any of my exhibits. 2.834 gallons per thousand of gas made. It would be more for gas sold, of course. That is the figure I took because the company went along that way in 1923. It will do as well next year, if it makes the same quality of gas. Of course, if we change the quality of the gas the whole set of figures has got to be changed. I do not know whether for better or worse, but there will be a change, of course, if you make a richer gas than you are making now. I believe the company will have as good results in 1924. The only thing that would affect it would be if we had very much colder weather. It might have to use more oil then. I know what quality of gas plaintiff made in 1923. The candle power or B. t. u.'s is given on Sheet 1 of Exhibit No. 48. I have it for each month. In January, 554 average B. t. u.'s tested at the works; Febru- [fol. 1086] ary, 561. I take an average of those fluctuations through the whole year for those twelve months, which is based on these fluctuations. I have not figured it up that way as Mr. Bogie said, you will have to take hundreds of these to get a weighted average.

I assume the company will have the same fluctuations and the same kind of gas and instead of getting an average of that I got the average of the oil. I think the company is going to jog up and down and be bound to, the same as it did last year on that quality of gas. I will go a little further: I will say I think it can get a little closer with less fluctuations. That is, it can approach more nearly to uniformity, which is extremely desirable, because otherwise the consumer cannot get the full use out of the gas, unless it is delivered uniformly. That is right, and it will cost the company a little more to make it. With the quality of gas around 540 to 550, tested at the works, that plaintiff has been attempting to make, there is no question if the gas goes up in quality, the difficulty of delivering that quality increases.

If the company get up to 650 as a minimum, of course it would be up and down; it would never be allowed to get down below 650. But 650 delivered would mean more than 650 made, and there would be great fluctuation in the quality [fol. 1087] as delivered to a certain consumer, and there would be greater fluctuations as between consumers. One consumer would have a great variety of qualities handed to him in 24 hours, according to the temperature of the atmosphere.

There is no doubt that no matter what it is, he would have it handed to him, as a sure proposition, and he would get in 24 hours gas of considerably different qualities, if the company were trying to make 650. There would not be so much fluctuation every day, but if a cold spell came on there would be great fluctuations before the company could change the adjustments to take care of it. The variations from uniformity, I think would not be sufficient so that you could say the service obtained by the customer would be of the best, with the statutory 650. I would characterize it as absolutely unsatisfactory service. I really could not say whether he would get as much for his money on that as he would on a 540 gas, at the same price for the two gases, because I do not know what he would get with the 650. I knew what he would get with the 540. That 650 gas has not been made, not consciously, as I put it in my direct. I mean a man may have made it, but he did not know he

was making it; because he was attempting to make candle-power gas and may have gone up in the make which is different from the furnished. Sometimes they went up to 730 or 740 B. t. u.'s at the plant in order to deliver 22 candle-power. That just happened, but they were not attempting consciously to make or deliver 650. Appliances [fol. 1088] have to be adjusted to meet the different kinds or qualities of gas. You can supply a 650 gas to the same burner that you would a 540. I think without danger, too, I will say that. But I think not with satisfactory service. You have to adjust the appliances.

I didn't say that the 2.834 gallons of oil per thousand cubic feet of gas made, the quantity made in 1923, was an efficient use of the oil. I said I thought it would be equally good next year. I think that an efficient use of it, about as much as you could expect, with the quality of oil that you were getting at that time, it was fair. It was not as high in degrees Baume as some of the other companies get down here. I think you get the same grade of oil. There is no chance, in my opinion, of the oil being poorer so that it might require more than 2.834 gallons. I do not figure on that. They have plenty of oil and they give you good stuff. Of course, all this oil is not gasified. It all is originally, but it comes down in some tar, some drip oil—residuals. For the twelve months here that I am talking about I have considered that there would be 16 per cent of it—turned into tar. Not much tar is gotten out of the oil at the present time. If I remember the figure—it is hard for me to carry all of these figures in my head, it was less than half of that, based upon the oil used. I think they will get more tar out of it in the twelve months of 1924. It is there, and I think you can get it. I mean even supposing you are using the oil efficiently, it is a matter of recovering it after [fol. 1089] it comes down, and I do not think you can stop it from coming down. In other words, I think you can get 16 per cent of the oil used. I think it was there and it got away from the company in some way. It might go out in the mains, might be in some of these storage tanks, perhaps not measured properly. It is pretty hard to measure it. 16 per cent of the recovery of water-gas is a standard practice amongst engineers in this neighborhood. Some get more than 16 per cent. I say when they get more I think

they are not making the gas well. If they get less they are not getting as much gas out of the gas oil as they ought to, or they are not measuring the tar properly after they recover it. The percentage of the tar that you get, this standard of 16 per cent, practically applies regardless of the quality. I think if you get up to 650 you would get more tar, because you could not gasify the oil properly. There would be a slight variation. It would be a variation between each month of the year, in the amount of tar you are recovering as a residual.

The company did not make 537. It is on Sheet 1 of this exhibit. This is all on the record. The Commission's test at the holder station is sometimes higher than the company's test at the works, and it should be a lot lower, because even with the 540 you lose something in transmission. We take the tests at different times, but average them daily and, average them each month, and I have got the maximum and the minimum. I have it as tested by the [fol. 1090] company at its holder station and then I have the Commission's monthly average. I think it would be fair for the purposes of this examination to refer to the gas furnished by the plaintiff as 540 gas. I am referring to the company's as 545 B. t. u.'s, as indicating the amount of gas or the quality of gas furnished by the plaintiff. I am willing to testify on that assumption. The People's Gas Light & Coke Company made gas of that quality with as little as 2.834 gallons of oil, of the quality we are getting, and had a recovery of 16 per cent of water-gas tar, in Chicago, many, many times, and making a lower quality than 545. I think it was 525 they did that with. Another one was the Public Service Company of Northern Illinois. They got a 16 per cent recovery, or more. To be quite fair, I might say this, that they used possibly a little heavier oil, which might run a little more in tar, but they used less oil. The only company I know of in this District making gas of the same quality as plaintiff is the Brooklyn Borough, I think—for any length of time on which you could base any results. The larger companies are making a B. t. u. that is higher and they have been changing so frequently that it is pretty hard to tell just what they are making. At the time I refer to concerning Chicago they were buying coal gas and making water gas, and now by reason of a peculiar

arrangement there is an outside company that is making coal gas and water gas and they are buying from two other coal gas companies, coke oven companies, and making water [fol. 1091] gas. All water gas they are making themselves. I think I can answer what Mr. Bogie is trying to get at. I was referring solely to the water gas results. That result would be the maximum possible, 16 per cent on an average throughout the year. The plant is in operation down there, and they are making gas there, and have been making it since the 1st of January. The exhibit I have put in relates to the months of January, February, March, April and May. This exhibit we have here now is, and when I made it up, was a forecast of twelve months from January 1st. Although I labelled it April 1st, I cast it back. As I use it here, and offering it to the Court, it is the twelve months ending December 31st, 1924, and this company is now making gas and is having a recovery of water gas tar. I did investigate to see whether it was getting this 16 per cent of recovery. I will say this, that no matter what investigation you make of tar, you could not tell by one month's operation what you will get. I haven't four months available to me, because the last I had was January and February, and March I got long after this was prepared. Now we are in May; January, February, March and April are history now, but I do not suppose the records are complete for April. I do not suppose the figures are assembled yet for April. It is very hard to get facts on how much tar you recover, on such a short period, because some of it may be in your receptacles, some of it in your relief holder. [fol. 1092] It is difficult to measure it at any time, but over a long period you can get a good average result as to what your recovery is.

The 2.834 gallons of oil is the number of gallons per thousand cubic feet made, and the company had about an 8.99 per cent unaccounted for. I would have to get an average over a year to say how much more oil would be required to make a 650 B. t. u. gas tested at the same place as our gas is tested, at the vicinity of the holder station there, a little over a mile from the works. The average over a year would be over two gallons; more than shown on my report, which is what plaintiff used,—more than two gallons per thousand made. The increase in the B. t. u. is due to the

use of a larger quantity of oil. That is the only way you can get it. There would be more danger in the 650 supply. There is some danger with the other also; there is always a hazard, but the hazard would be increased with 650 B. t. u.'s, occasioned by the difficulty of maintaining a uniform quality when you get into the high B. t. u. values. For instance, a sudden change in temperature, a hailstorm on a holder full of gas would knock the B. t. u.'s down: if you were living up to a 650 B. t. u. standard, you would have to immediately make something much higher and deliver adjacent to the plant a good deal more than 650, while on the outlying districts the variation would be very great, and close to the holder station it would be equally great, I think, [fol. 1093] because you can not make gas and mix it thoroughly in a holder, it stratifies and short circuits between inlet and outlet pipes, and some consumers close to the works might be getting 700 B. t. u. gas and then within 24 hours they might be getting 600, and there is the danger. There is the danger, the drop in the B. t. u.'s. There is not so much danger in a sharp rise in the number of B. t. u.'s. It is when it comes down. I do not give so much attention to carbon monoxide from a rich gas; I think you can have just as much danger from a weak gas; but there would be more chance of an explosion with the variation in the quality of the rich gas. It would be practical for plaintiff to start making 650 gas at the works so far as the works is concerned, but it would not be practicable so far as the distribution is concerned because plaintiff would have to change its appliances. Then even if the appliances were changed, there would be this element of danger,—not so much after the appliances have been changed. But there would be that hazard by loss of life, probably, and the unsatisfactory service that I mentioned. The company's make in 1923 is up around two billion, in the two billion class. I have estimated plaintiff would sell 2,067,067,263. That is an increase in all its sales over the year before, of about 15 per cent. I really did not figure that. I figured on another basis. If it increased the sales 15 per cent the make is increased the same amount, 15 per cent, inasmuch as I estimate the same percentage of leakage. And with [fol. 1094] the increase I have here, plaintiff just goes over the two billion mark. When you get up to a two bil-

lion figure, you have a fairly good sized company, and 1,800,000,000 is pretty good output. It is not a small gas works. If you take into account only the quantity averaged throughout the year, you are making it just as cheaply per unit as it can be made, so far as quantity is concerned. 15 increase in make or sales would not necessarily reduce the unit cost of making, on account of the quantity production, or larger quantity production. So the company can look for no reduction in operating expenses per unit on account of the fact that it may have an increase of 15 per cent in its production next year, that is, if you confine it to production expense. There would be no decrease. In other words, you can get just as much out of your oil and just as much out of your coal and boiler labor and your generator house labor with 1,800,000,000 as you can making two billion. There are some variations that Mr. Searles spoke of that I heartily agree with, that is, in keeping a generator ready to run and not requiring it to run, it would be using up a little fuel. When plaintiff comes into the distribution expenses, it might get a reduction in commercial expenses in some cases, but would not get that here because its commercial department was pretty close to the point of saturation last year. The increase in the sales will not [fol. 1095] necessarily affect it upwards or downwards. There comes a time in a gas works where you reach the saturation point, when you have to put on a lot of clerks and then you have too many. It wasn't my intention that any deductions I have in here in my expenses of manufacture and distribution, are occasioned by the fact that plaintiff may make more gas and sell more gas next year. Even if it had a 15 per cent increase, or 25 per cent increase, I would not look for a lower unit cost. I think that applies to practically everything in my estimate. The company's oil does not cost us as much per unit under my estimate here as it did in 1923, because we are now under a better oil contract, that is, a lower price. Coal and coke are about the same price. Coke is a little down now, and coke will go up again and the average will be about what I have in this, I think, which is what plaintiff paid on the average last year. Speaking about a reduction that I have here in solid boiler fuel,—that expense is reduced because I have a larger residual credit. But whatever my residual is, it

does not alter the situation at all because the same quantity and same rate is charged into the cost of manufacturing, and then it is deducted as a credit. If the company does not have 16 per cent tar residual it will have to use more solid boiler fuel. I give the equivalent of water gas tar and solid boiler fuel. In obtaining the equivalent, I figured a [fol. 1096] gallon of tar weighing 9 pounds and each pound of tar equivalent to 1.7 pounds of solid boiler fuel. That is the accepted figure in this district used by Mr. Woods in the Consolidated system cases. The screenings plaintiff will get from its generator fuel, plus the tar residual it will get from its oil will be able to supply all its boiler fuel. There will not be a surplus in either case. The company will use up all of its tar and less solid fuel than it did use, and I am trying to figure out to give the exact equivalent in the solid fuel that the company used in 1923. Nature has not so arranged it that in running a gas plant the residual from the oil plus the screenings from the coke will furnish the boiler fuel. It uses both of those; if it does not have enough screenings from its coke it will have to use bituminous coal or buckwheat or barley or some other low grade boiler fuel. I figured that plaintiff would need to get some additional boiler fuel, but I have used the same price that it paid for its coke. I am told the company at the present time recovers from its gas oil in the way of tar and from its coke in the way of screenings more boiler fuel than it can use. I know the company sells some of its coke screenings. It might go either way; it depends on how much screenings it gets from its coke. They are both residuals, coke and tar, or by-products. If the company gets more than it needs for boiler fuel, it can sell it or reduce the size of its screens and use more of its coke screenings along with its coke in the [fol. 1097] generator fuel. It is a matter of discretion how much of these screenings get into the generators. I think the company's past record shows that its screens were not quite accurately spaced, the holes, it was getting a little too much screenings and selling some. It could not sell screenings at the same price here that I used. If it had very fine screenings, no, but if it had the big screenings such as it sold last year it could get about as much as it pays for the coke. The company sold quite a lot of screenings. I had the figures gotten out for me by the accountants. The

day we were visiting there the company was loading it up and had a special arrangement for doing it, when the Master was there. I have for boiler fuel two items—for the boiler fuel screenings, $22,876 and $49,061 for boiler tar. That is a total of close to $72,000. If the company only gets half the boiler fuel that I have got in my estimate, it would have to increase it in proportion to the amount that it reduces its tar, taking into account the equivalent value of the tar as boiler fuel. It had in 1923 for the same item of boiler fuel screenings $43,000 as against the $22,876 I have got. That is because the company did not have the recovery in that year that I was computing for it for this year, so therein lies the difference in expenses in the boiler fuel. In 1923 the company did buy some bituminous coal [fol. 1098] and used it. That clears up the point about getting just exactly the same quantity so it would not have any for sale. There is another substantial difference there, and that is on the company's renewals and replacements. That is under Renewals and Replacements, 57, Sheet 6. The company in its expenses for the years 1920 to 1923 charged 3 cents per thousand cubic feet of gas sold. In my twelve months' figure I have reduced that to .8 cents, to which, however, would have to be added the amount I gave this morning of .001 plus, which was the prior to 1908. I rounded out the other figure to 8. It is .0086374. That is what it would be based on the actual, as I have stated it. That represents the average amount of property that is actually retired over a period of years. I am in favor of a uniform charge per year, uniform per thousand cubic feet of gas sold, to meet these retirements of property. I think that is a sound way to do it. Sometimes a retirement might be by one management treated as a repair and a repair might by another management be treated as a retirement. It is a close line. It could all be treated as repairs, but it would not be exactly the best way. The repair or retirement is an expensive operation, and should be included in any computation as to the cost of making gas. The advantage in having two sets of accounts, a repair account and this retirement account is—it is better to have a reserve to meet unusual retirements which occur over two or three years and repairs which occur every year may be charged into that year, but sometimes they may retire

[fol. 1099] $7,000 worth of property and other times may retire $24,000. If you only retire seven, you ought to set up enough to retire in the two years the $31,000. The repairs come along more or less uniformly, naturally. That is the way they are classified, I think. The things that come within a year that may occur and recur. The retirement is something that may be larger one year than another. And in order to even it off I am in favor of having it put into an account like this. I have limited the company for the twelve months that we are speaking of to the actual average retirements of a period covering seven years. I have not converted it into repairs. I would not agree to that. I think the figures I gave on direct showing the fluctuations in that account would answer that question. A company ought to have a margin yearly above the actual retirements, for some time, until it gets a reserve, and when it does get a reserve, then it should be limited to the actual yearly retirements. Suppose the company did not have anything in this reserve now, to be entitled to more than .86 of a cent in the twelve months we are speaking of, I may say a commission in fixing the rate would have to take that into account, particularly as to whether it had earned enough to set aside a reserve. It may have earned [fol. 1100] it and not set it aside. That is a matter I think of rate-making more than testing the statute. I do not know whether this reserve that plaintiff has was actually earned. I do not go back far enough in my calculations to say whether it did or not. I am giving these twelve months the advantage of the fact that plaintiff have a reserve there. I am familiar with the practices of other gas companies in this district. I have examined their accounts. All of the gas companies in this district are all treating retirements in the way I have suggested here. They are not setting up any increase in reserve. A lot of them have a big reserve due to past years. I have testified in the New York & Queens case. They had in there the three cents per thousand. I have forgotten whether I treated it the same way or not, but I believe I have treated it the same way as I have here. At any rate, that gas company sets up three cents, charging into its operations three cents for retirements. I did not testify in the Bronx Gas & Electric Company case. I do not know what that company charged for

retirements. I think it was more than that, but I do not know. I am not quite sure what the Brooklyn Union charges. It is either a cent and a half or three cents. The Consolidated Gas Company charges were three and a half. In this 1924, as I will call it, if plaintiff have been obliged to retire property costing more than $16,538, it would meet the expense of doing it to the extent that it is greater than [fol. 1101] this amount, by drawing on this reservoir. I would like to qualify that a little. To the extent that any property was put in prior to 1908 you would have to charge that to surplus. But for the other part you would have to draw on your reserves. It is the property installed after 1908 that goes into the reserve. That is charged against the reserve. Suppose you retired in 1924 $36,000 worth of property so installed, your reserve would be reduced $20,000. And anything retired before that, of property installed before 1908, would have to be charged to your surplus. In that event, on that assumption then, my expenses here that I have figured up would not meet really the cost of making gas and distributing gas in 1924.

I do not find anything here for uncollectible bills, in Exhibit No. 48. It is a disputed point as to whether that is a proper expense of manufacturing and distributing gas, but there will be some; there always is. I have not allowed anything specifically for uncollectible bills. I have taken into account the fact that plaintiff company is allowed to collect deposits from consumers. I have not included here in my 1923 figures on this exhibit No. 48, uncollectible bills. I do not see it listed here. There will be no reduction in the cost per thousand of manufacturing and distributing gas in 1924, because of the greater quantities of sales of gas. It [fol. 1102] would vary very little. This Exhibit No. 48 is primarily offered here by me or brought here by me to show the probable cost of manufacturing and distributing gas in the twelve month period beginning January 1st, 1924. If what has been said about the increase is true, it was unnecessary therefore to assume any increase in our sales; I could just as well have done it on the sales of 1923, but I think this is the fairer way, to take into account all factors. The other would not have been a true picture at all. The principal differences would be—you could take your 1923 expenses and say you would have a less oil cost because

you got a better price on oil, and the further calculation as to the unaccounted-for. You would have to find what the decrease in the cost of oil per thousand made meant and then compare it with the cost per thousand feet of gas sold. The unaccounted-for has not altered the problem. I have used the same unaccounted-for that plaintiff had in 1923,—precisely the same in percentage. There are several other factors, I think, why this would be a better picture than the one counsel suggests, to just take the 1923 figures and adjust them by showing the reduction in the cost of oil, because there is a reduction naturally in the cost of oil, and so on, such as the residual which is obtained and which is not treated rightly by plaintiff in the last year. I could make an adjustment on the residual and say plaintiff did not recover as much tar as it ought to last year. I felt at [fol. 1103] the time that there was an occasion for my computing the possible increase in capital in connection with this exhibit, for the purpose of getting the operating expense. I have got to find whether the plant is big enough to make that quantity of gas without requiring an increase in the capital. I have got to take that into account. I have got to take into account how you use your machines. This estimate may have something to do with capital requirements. If you increase gas demand thirty per cent, your plant may not be big enough. Then you may, again, use less generator fuel. I do not make some use of this in connection with capital, but if after working out the figures I found a bigger increase in the sales to be anticipated, then I would have to take it into account. In other words: I started out with this estimate and I did not know where it was going to land at all. I have got to assume sales and base it on past experience. I have worked it out and know where it lands, subject to changes. With respect to capital additions, I have considered it. To make this amount of gas I have here, it would naturally take more capital as shown by plaintiff's expenditures. In other words, it would put in new mains and new services. The plant itself is large enough, I believe. That is the manufacturing works. The way they are growing out in that territory, the company will have to put in additional mains and meters and services. I have not produced anything yet to show the capital [fol. 1104] additions or the capital as it will stand at the

end of 1923 or 1924. I stopped at the year 1923, because I had put in fixed capital additions up to the last date. The company's figures on that can be used to supplement mine. I took a fixed date. Consideration would have to be given to whether all of that capital added is used and useful. That would be shown on their side of the case, so there is no use of me duplicating that. A possible increase in sales might not have a substantial bearing upon the amount of revenue over and above expenses of operation,—not in the production. A 15 per cent increase in sales makes an increase of about 267,589,000 cubic feet. My increase is based upon some past experience in growth, all as set forth on Exhibit No. 48, pages 1 to 4. I have not ascertained what is the growth in the four months of this year over the like four months of last year. That would have some bearing on it, but not an awful lot, because you have got to take more than that period into account. If it does not increase in the first four months, in the second four months, in the third four months—then you have no increase. If you do not increase in the first four months at the rate I say, you may by next winter have a very much greater increase. I do not know whether you will or not, but I say based upon the factors that I could get from plaintiff's books, this is the result—[fol. 1105] the way I have worked it out. I have given all my reasons. If they are wrong, you can point it out. The four months' figures, as I stated, were not available to me. Throughout the year I look for this great increase that I am talking about. Some may be in the summer and some in the fall. The increase will be due to new houses, new consumers, this year.

The total output of the gas company does not necessarily increase because the number of its consumers increases, because you may get a warm fall and sell less gas for heating. You may get a cold fall, but not cold enough to start the furnaces, and you may get a very big increase. I cannot forecast what the weather is going to be, but I can take into account the factors of the last eleven or twelve years. As to the supply of coal for heating, if there is going to be any strike, you will have more than the fifteen per cent. increase, if you have difficulty in getting coal by a railroad strike, or a coal miners' strike. There were no strikes last year to affect it. The coal situation was not particularly

stringent last year. We thought it was going to be, but everybody loaded up and there was no stringency. The miners got together with the operators. The amount of unaccounted-for gas has an important bearing upon the unit cost of furnishing gas. I have used in my Exhibit No. 48, the unaccounted-for that the company had last year. Last year was the company's best year on that—the best results [fol. 1106] in unaccounted-for. I have used those for 1924. It isn't within the realm of possibility that I may have a larger unaccounted-for. The Consolidated system has a better result than plaintiff has in that respect. Confining it to the Metropolitan District, I would not go to Illinois, I would go beyond that. The Brooklyn Union has less, but not the Brooklyn Union plus its subsidiaries, which are in a different kind of territory. The Brooklyn Union reported for the whole system, and I took it off and separated it. My figure that the Brooklyn Union Gas Company has is about 5.9, as I recollect it. That is not quite as good as the Consolidated. I have made no allowance in my figures there for any possible increase in the amount, that is, percentage, of unaccounted-for. The company has tar burning boilers sufficient to burn this quantity of residual tar that I have provided for. I think they can use a lot less fuel, less tar than I have stated, because of the improvements that they are making—waste heat boilers and so forth. I think the company should sell the tar, and I figure they can get that price for it that I have given a credit for. It doesn't make any difference whether they burn it or sell it. I think it has that value, 4.75 per gallon. I figure there is a direct relationship between the amount of gas and the amount of tar residual from a gallon of oil—about 16 per cent. of the oil that the company uses. If you use more oil you get more drip oil. If you had a larger percentage of gas, you would [fol. 1107] get a lower percentage of tar, and if you got a smaller amount of gas you would be apt to get more tar.

Redirect:

I stated the reason that I had for not including in Defendants' Exhibit No. 48 the item of uncollectible bills, was a debatable topic, and in this locality the companies are permitted by, I think it is the Transportation Corporations Act, to collect a deposit from each consumer equal to two

months' estimated maximum consumption of the utility being used, and therefore they should be able to collect all their accounts for gas. That is, before turning on the supply of gas to the consumer, the law permits them to collect what they call a deposit, and for that reason, assuming that these deposits were actually collected, I do not believe there would be any occasion to include in these operating expenses the item uncollectible bills. I assume diligence in collecting gas bills, and if people do not pay their gas bills, I assume that they will be cut off. I do not see any reason why a man who pays his bills promptly should be penalized by paying money because his less creditable neighbor refuses to pay his bills. Assuming that the plaintiff has an amount collected from its consumers which aggregates at the present time the sum of $200,000, in my opinion, the actual amount of the property withdrawn from service [fol. 1108] averaged over a period of years should be collected and charged as operating expenses beyond what is already in hand.

As to what disposition I would make of this sum of $200,000 which I have assumed the plaintiff has in reserve, collected from the consumers to cover plant withdrawn from service, I think it should be allowed to remain in the ownership of the company so as to take care of any inequality that might arise due to not getting the average retirement over a greater number of years than I have been able to take into account. In other words, I think it might be a hardship if in one year they had to withdraw $40,000 or $50,000 if they did not have this reserve at their command. I do not believe that they should be allowed to continue, in view of those assumptions, the collection of 3 cents per thousand cubic feet of gas sold. In my opinion, it should be the sum I have stated, that is the additions of the two amounts per thousand cubic feet, representing the past and recent history of this company. I am aware that the plaintiff in their exhibits have set forth the sum of 3 cents per thousand cubic feet of gas sold to cover plant withdrawn from service, and I am also aware that they have charged certain sums to operating expenses besides that 3 cents for current repairs. In my opinion, in view of what I have stated, about the 3 cents, this disposition should be made of the items of expense covered under the term current repairs—

they should have each year what it actually takes to retire the property.

[fol. 1109] Referring to an exhibit put in by the plaintiff's witness Miller, wherein he spoke of, in the exhibit covering repairs, a hopper which he said would cost $600 to repair, and he also said that that would be equal to the cost of a brand new hopper. In my opinion it does not make much difference. You can write it off and charge the new one up to a capital account, or you can repair it and charge it up to current repairs. I do not think it fair to the consumer to practically do both. That is by charging 3 cents for each thousand cubic feet of gas sold to cover an item that is to be entirely renewed, and at the same time charge a sum for its repair equal to what it would cost to renew it. I think the retirement expense should be on the basis of the actual cost of the property retired averaged over a period of years. If they retire a hopper from service, they ought to charge it up to renewals and replacements, and if they put in a better hopper, that should be charged to fixed capital account. The cost of that particular item should be taken from this sum of money collected from the consumer of 3 cents per thousand cubic feet of gas sold if they collect 3 cents. I have not made any determination here with respect to the expense of the depreciation of the plaintiff's plant because I have not had sufficient time to examine each item of property. I am familiar with the exhibit introduced [fol. 1110] here by the witness Miller covering restoration costs on plaintiff's property. I think the total amount represented in that estimate on the part of the witness Miller should be deducted from the capital account here as accrued depreciation. I think if the repairs since June 1st up to the end of the year, say, have been greater than Col. Miller disclosed as his opinion of the amount of the current repairs or cost to restore the property, then some weight should be given to the fact that the repairs have been actually more than he anticipated, and there was an exhibit, I believe, introduced by the defendants showing figures bearing a contention out along those lines. I have not made any survey of the plant to determine the extent of the depreciation, that is, I have not been able in the time that was available to me to go over every item of property and I could not make any determination or even an estimate—

I do not make determinations, but estimates—of observable accrued depreciation. I could not do that without examining each item of property. To the extent of the property that can not be examined, I would have to adopt some other plan. I think it possible in the amount of residual obtained by the plaintiff of water gas tar that they could obtain 16 per cent with the use of 2.8 gallons of gas oil. That is with the use of 2.9 gallons of gas oil for each thousand cubic feet of gas made, I think the plaintiff could obtain 16 per [fol. 1111] cent residual in water gas tar. It is 2.834 if you are basing it on the last year's figures.

LITTLE

Recross:

I have been through the plaintiff's plant, and a certain part of it is visible. I have cast my eye over it. I do not make estimates of accrued depreciation on such an examination as that. The plant looks in pretty fair average condition, as gas plants go, and every repair that is reasonably required has been made, so far as I could see in the time at my disposal. The gas works and holders and shop buildings on 65th Street are all well-preserved and well-maintained. If I were in charge I could not expect to see it much better than it is. The plaintiff here has set forth on its exhibit the expense or cost of manufacturing and distributing gas, and I am familiar with those exhibits. I have brought in an exhibit taken from its books for years prior to 1923 and have added on to it the probable cost of expense of making gas for 1924.

[fol. 1112] As to the extent of the accrued depreciation, I would not say anything more, but I think it should be taken on what you observe, and I have not had a chance to observe it fully. I consider that accrued depreciation is a fact and can only be determined with observation. For instance, if a building is depreciating because it is a year older than it was a year before, then if you go on that theory, you have to increase your operating expenses on that basis. If you take the straight line method, or the sinking fund, or either one of them, that is if it is based on a life table. In these expenses that I have put in here, I have not increased them or allowed in them anything to meet that situation.

Redirect:

I haven't deducted from my estimate of the fixed capital engaged in the service of the plaintiff's consumers any sum for accrued depreciation, and in preparing my estimate of the future cost in making gas, I felt bound and constrained to estimate the amount of gas that they would sell during the period for which I made that estimate. It is based upon [fol. 1113] the past, giving me a guide for the future. But with reference only to the volume I felt bound to estimate the volume of sales for the future period in determining what the future cost would be. Assuming that I had gone down to the plaintiff's plant and made a complete survey of the plant and found some observed depreciation there, of course I would have deducted from my estimate of the value of the plant engaged in the public service whatever it would cost to put the plant back into the condition in which it was when new.

Recross:

The exhibit upon plaintiff company's repairs for 1923 was prepared under my direction. I think that is probably so that they spent more in 1923 for repairs, than Mr. Miller had said it would cost to restore the property. I think it would throw some light on his testimony. The repairs that the company makes during the year like checker brick and boiler tubes and things like that are something that goes on every month. The checker brick doesn't last a whole year. Ordinarily they figure a thousand hours is plenty of time. And in these expenses, the repair expenses for 1923, some of that money is very likely for checker-brick new, bought and installed after June 1st, so you cannot necessarily compare the amount of actual repairs had. You should not set one up against the other exactly, but you should take it into account. It throws some light on it, I [fol. 1114] think. For instance, a building, if Colonel Miller had estimated it would cost $500 to shingle a roof and we afterwards in that same year shingled it at an expense of $2,000—he under-estimated it; but when you take the whole of the operating repairs on a plant for a year after the time he said, it would cost so much to restore it, you do not necessarily come in conflict with him if your repair

expenses are larger. Suppose he put on an entirely new roof; that is not a repair. In other words, if it is an entirely new roof it goes to capital account, and the old one is written off. It ought to be both, repair expense and a retirement expense. There are no retirements in that one on repairs made under my direction. It ought to be included. Both would throw more light upon, it than the one alone. The retirements are in evidence. The retirements are in evidence, but they are not on that exhibit.

[fol. 1115] Brooklyn, New York, May 13th, 1924.

Dr. Edwin Walter Kemmerer, called on behalf of defendants, testified:

Direct:

I reside at Princeton, New Jersey. I am professor of Economics and Finance at Princeton University. I have been a professor there since 1912. Previous to my employment at Princeton I was at Cornell University as a member of the faculty. I was professor of Economics and Finance the last three years I was there. I was assistant professor before that time. Prior to that time I was Instructor in Economics at Purdue University for two years, 1901 to 1903. I graduated at Wesleyan University in Connecticut in the class of 1899, having specialized in the field of economics, with the Bachelor's Degree A. B. Then I went to Cornell University as Fellow in Economics and Finance, the position to which I was appointed immediately upon my graduation, and then I was reappointed to the Fellowship in Economics and Finance at Cornell and I held that position two years, then I went to Purdue for two years and took my doctor's degree, Doctor of Philosophy, at Cornell, in 1903. During this period of time I have been a consultant and have done a good deal of advisory work for countries. I first went to the Philippines in 1903 as financial advisor to the Taft Administration in matters relating [fol. 1116] to the establishment of the gold standard for the Philippines. The Philippines had been on the silver standard for a good many years. The Congress of the United States had passed a General Enabling Act providing that

the Philippines should establish a gold standard. I was sent out there as expert, as they called it, to advise the Philippine Government as to the plan of the gold standard to adopt, to draft the legislation for the establishment of the gold standard and to see it through. So from 1903 to 1906 I was financial advisor and then Chief of the Division of the Currency which acted in an advisory capacity in drafting the legislation for the establishing of the gold exchange standard for the Philippines and for putting it into operation. While I was there I had certain other duties. For example, I had charge of the bank examination work of the Islands, and I drafted all legislation for the establishment of the Philippines Postal Savings Bank, the Philippine Agricultural Bank and some minor laws. The Philippine Government and our War Department then sent me to the Straits Settlements and to Egypt. The Straits Settlements had recently put through a currency reform, and they wished me to make an investigation of that and report, so I spent some time there investigating that reform and reporting; then to Egypt where I made investigation and report of the agricultural bank of Egypt, the report of [fol. 1117] which was published by our War Department. It had particular reference to the plans we were contemplating in the Philippines then for an agricultural bank, and the Egyptian lesson gave promise of being very helpful, so I spent some time there and made this investigation and report. That was on my way home from the Philippines to take my position at Cornell on the faculty in the Department of Economics. I made that report to both the Philippine Government and the War Department in Washington. My next work was as one of the currency experts for the National Monetary Commission, the Aldrich Commission, in which I was called upon to make an investigation and report, and my report was published in one of their volumes entitled "Seasonal Variations in the Demand for Currency and Capital." My next public position of an advisory character was financial advisor of the Mexican Government, in the summer of 1917, with particular reference to their currency reform. I spent several months down there advising the Carranza Government and drafting legislation for them. My next employment was in 1919 when I was employed as currency and banking expert for the Guatamalan Govern-

ment to draft a plan for re-establishing the gold standard and revising the banking system of Guatemala. My next position—you understand I am carrying on my university work during all of this time and these engagements are in the summer time or on leave of absence from the University. My next employment was as the United States trade [fol. 1118] commissioner in 1922. I spent seven months in South America studying the currency and banking problems under the official title of United States Trade Commissioner. That is for the United States Government. I came back then, and the Colombian Government asked our Government to appoint a commissioner to assist in reorganizing their whole financial system, their tax system, their budget system and their currency and banking system. Secretary of State Hughes nominated me and the Colombian Government immediately appointed me. I made recommendations for other members of this commission, consisting of three others and a secretary, and we went in February of last year to Bogota and were gone seven months. I succeeded in putting through very thoroughgoing reform of their finances, covering the budget system and the tax system, the reestablishment of the gold standard, new banking legislation and the establishment of the gold standard, new banking legislation and the establishment of a new bank, and various other matters. The Columbian Government accepted my recommendations and acted upon them. That was one of the interesting phases of it. This is one of the experiences you do not always have in such matters, where the Columbian Government accepted our recommendations almost in their entirety, with very few exceptions, with few changes, and passed the legislation while we were there. It was signed by the President, and the new bank we were establishing and the return to the gold standard which we [fol. 1119] were trying to bring about, we had the satisfaction of seeing completed, the bank established, and the gold standard reestablished before we left. Then I came home last September from that position and, in January, was called on the recommendation of our State Department to act as currency and banking expert to—I do not say "of" to the experts of the Dawes Committee in Europe, and I have just spent four months over there in connection with that work and returned only a few weeks ago. I did participate in the drawing of the report of the so-called

Dawes Committee. Of course that was an unofficial committee. My name was suggested by an officer of the United States Government. As an under-graduate at Wesleyan University, I became very much interested in currency and banking problems. I took all of the courses in economics they have there and, in my senior year, I found myself as the only member of one class; there was a professor and one student, and I was that student, and in connection with that, I was asked to write a thesis which represented practically my year's work, having repeated conferences with the professor. I chose as my subject "The relation of money and credit instruments to price levels," the so-called quantity value of money, and I presented that to the university and, on the basis of that report, I was appointed University Fellow at Cornell immediately on my graduation. That report I developed during the years of my graduate [fol. 1120] work and it was accepted finally as my doctrinal dissertation. Later it was revised and published in a little book which I have with me on "Money and credit instruments and their relation to general prices." Since that time I have been particularly interested in this field. I started in it early and I have kept up my interest in studying, writing and teaching. I have written one book on "Money and credit instruments and their relation to general prices," and I have written a good many articles on the subject. In nearly every book that I have written, and I have written quite a number, that subject has been discussed at greater or less length. I was before a sub-committee of Congress on—or a couple of years ago, when the subject was up of the bounty on gold production, the so-called McFadden Bill. There is very little data available on price levels for a longer period than a century. In fact, there is very little available for a century, except in the case of England, and some very incomplete figures in the United States. These studies necessarily involve a considerable amount of work in the investigation of statistical information. I should say the men that are most active in this particular field, are Prof. Irving Fisher of Yale University; Prof. Wesley Mitchell of the New School, formerly of Columbia. I think he is in New York. Prof. Warren Parsons is one of our leading statisticians and has worked particularly in this field. The Harvard University Group, [fol. 1121] preparing this Harvard Review. There are

quite a number of them that are working in it. Prof. Bullock, I believe, is working on it, and I think his special field until recently has been taxation. He has in the last few years taken particular interest in that field. Within the last few years Prof. Hollander has done something in it, although his specialty most of the time has been public finance. However, in the last few years he has been paying more attention to this field than formerly. Of course there are a number of people abroad, but I am just giving a list in the United States. I am a believer in what is generally known as the quantity value of money, when it is reasonably and sanely presented. It is often presented in other forms, and it seems to me that the value of money is expressed in the price level. That is, the higher the level of prices, the lower the value of the money unit; and the lower the level of prices, the higher the value of the money unit. If you double the price level, why, you are cutting the purchasing power of the dollar in half, and inasmuch as money is worth what it will buy, if you cut its purchasing power in half, you cut its value in half. If you cut the price level in half, you double the value of money. Now, the value of money is, therefore, expressed in the price level in any country, and that value, like the value of any other commodity—for money is only a peculiar class of commodity—that value of money is determined by the law of demand and supply, the quantity value of money is merely a [fol. 1122] special application of the law of demand and supply, the quantity value of money is merely a special application of the law of demand and supply of money, and that means that on one side you have your circulating medium, including money and bank deposits which circulate as money, and, on the other side, you have your physical goods to be exchanged, agricultural products, mineral products, services and what not, and with the supply of money on one side and the supply of goods to be exchanged on the other.

The supply of money in the market is the demand for goods, and the supply of goods in the market is the demand for money, so each is demand and each is supply; and, if you can consider the goods on one side and the money on the other side, they are balanced against each other and the price level is the fulcrum at which demand and supply will

be equiliberated; that is, the price level is at the point where demand and supply normally develops. It is merely an example of the fundamental economic law of demand and supply. In gold standard countries, of which the United States is one today, the value of the monetary unit, which is the dollar, is the value of so many grains of gold .9 fine, when coined into money. All of these forces of demand and supply that I have mentioned act upon gold and any change in the value of money represents a change in the value of gold coined into money. When you have free coinage as we have in the United States, 25.8 grains of gold .9 fine, which is the amount of gold in a gold dollar, if we coined a gold dollar, must be practically the same value as money [fol. 1123] as it is as gold bullion, because anyone can take unlimited quantities of gold to any American mint and, for every 25.8 grains of gold .9 fine which he presents, he can obtain a gold dollar without any coinage charge, and anyone can take gold coins and if he melts them down, if they are not abraded or worn too much, he will get on melting every gold dollar down, 25.8 grains of gold .9 fine out of it. They are interchangeable except for the charge of transportation and that sort of thing, so the value of a gold dollar and the value of 25.8 grains of gold .9 fine are the same thing practically in a country that is on the gold standard, as we are; and any ups and downs in the price level, so far as the country stays on the gold standard, is reflected in ups and downs in the value of the gold dollar and in the value of gold bullion. Before the war, the forces that determined the value of gold were thoroughly international, because most of the world was on the gold standard. At the present time a very substantial part of the world is on a paper money basis, and there are many restrictions on the exportation of gold and so on, but under normal conditions the value of gold is an international proposition, it is an international product, and it is one of the products that under normal conditions flow most freely in international trade. The United States is clearly on the gold standard; Colombia in South America is on the gold standard; Salvador is on the gold standard, and there are a few others, little places, but not many more. Mexico is [fol. 1124] practically so, I believe, although she has been wandering away from it a little lately. Gold is being

shipped now right along from one country to another under ordinary circumstances. I think the law that controls the shipment of gold, except insofar as it is interfered with by political acts, is essentially the same thing as the law that controls the shipment of wheat or steel rails or anything else. Gold is a commodity. It is a commodity that is used for jewelry and plate and used for money, and it flows from the market where it is cheap to the market where it is dear. Its dearness or cheapness being expressed in its purchasing power over other goods, and whenever the value of gold is greater, we will say, in England, than it is in the United States by an amount sufficient to pay shipping charges, interest in transit and leave a small profit to the shipper, it is shipped from the United States to England; and when the reverse is true it is shipped back, and that applies generally except to the extent that governments may place restrictions upon the movement of gold, as they often do. Or banks sometimes adopt a deliberate policy of favoring the importation of gold or putting obstacles in the way of exportation. We in America today have a perfectly free gold market from the standpoint that there is no restriction, so far as I know of, on the importation or exportation of gold. Regarding the history of the price levels expressed in gold values for the last 100 years, I have looked over the charts presented by Prof. Hollander, which is here [fol. 1125] marked Plaintiff's Exhibit No. 80, and I think the figures expressed in there are, so far as I know, accurate. The- are apparently the official figures of the United States Department of Labor, on the first chart. Chart No. 2 represents the figures of the United States and English prices as published by the Harvard Economic Review, and it is based upon the best of the official figures of England and the United States. The production of basic industries and volume of business is, I believe, I am very sure of it—prepared by our Federal Reserve authorities. I have not checked the points, but it looks all right to me, and the figures of bank credit, gold reserve and the Federal Reserve notes is apparently the official figures of the Federal Reserve authorities. I see no reason to doubt their accuracy. I have not checked them up, but they look all right to me. I was rather impressed in looking at these graphs to observe that on the first graph the curves were plotted on the

logarithmic basis. In other words, the first are ratio charts. And on both of the graphs are prices. The others which give volume of business and bank credit are not ratio charts, they are simply arithmetical presentations. The ratio chart is a perfectly proper sort of a chart to use; it is used extensively by scientific men, because it expresses not absolute amounts in distances covered by the graphs, but it covers percentages. Of course, the figures on the side do give you the amounts. The other charts do not express per- [fol. 1126] centages, but express absolute amounts. For example, on a simple arithmetical chart an advance of a figure from 50 to 100 would represent 100 per cent increase, and would represent 50 points. Now, on the simple mathematical chart an advance of 100 to 200 would represent twice as many points, but would likewise represent just 100 per cent, so on the simple ratio chart the distance from 50 to 100 would represent the same particular distance as the distance of 100 to 200 because they are both 100 per cent increases. On the other geometrical chart it would represent a much smaller distance, because the distance from 50 to 100 is 100 per cent increase, and of course the distance from 100 to 200 would take the same distance; I mean on the chart the perpendicular distance represented by the 50 points, 50 to 100, would be the same on the geometrical chart as the distance 100 to 200. The result of that is that a geometrical chart does not show up fluctuations in such a striking way. That is, the use of the percentage figures or ration figures tends to level down the curves. The figures are just the same, if you will read the figures at the side you will get just the same story, but the picture it makes on your mind is that you see less variation when you see the lower chart that when you see the other. Now, that is perfectly justifiable, to use the ration chart. They are used extensively. I am not quite sure, though, why Mr. Hollander uses the ratio chart for his prices and uses the simple chart for the volume of production in basic indus- [fol. 1127] tries and bank credit. Probably because these are reproductions of other charts and he reproduces them as he found them. But the result is that your graph shows up fluctuations on the latter two charts more strongly than it does on the price charts, and if he were making the figures new the natural thing would have been, I should say, to put

them all on the ratio basis or on the simple mathematical basis, so that they would each tell the same sort of story when you are making comparisons. This chart which I have here is a chart of Sauerbeck and Jevons index numbers covering prices in England for about 100 years, and it began with 1820, when England practically returned to the gold standard, and comes down to 1913 when, under war conditions, she gave up the gold standard, so it represents very nearly 100 years of the gold standard or prices under the gold standard. Mr. Sauerbeck was a leading statistician of England, and the Sauerbeck index prices are now published by the London Statist, one of the leading financial papers of England, and his index numbers are famous in England; they are one of the very best known; they run away back to the 50's, and Mr. W. Stanley Jevons, the great English economist, publishes index numbers from 1762 running down to the 1850 to 60's. Mr. Sauerbeck's index numbers began at a date about that time, about the middle of the last century, and are continued up to the present time under the name of the London Statist Index Numbers. As to those index numbers being accepted by economists in general as absolutely reliable and authentic, [fol. 1128] the word absolutely is a dangerous word. I think that the Sauerbeck index numbers are looked upon by economists as one of the very best of the English series of index numbers. They are quoted generally by our scientific authorities and by our Federal Reserve authorities. And I think the Jevons index numbers are the best index numbers we have beginning back in the early part of the last century. W. Stanley Jevons, of course, is one of the world's greatest economists. This chart that I hold in my hand (witness exhibits chart) is merely a photostat. It is a reproduction of the Sauerbeck chart, which was sent me by Sauerbeck or his publishers some years ago. I had it reproduced, extended a couple of years, and incorporated in the report I prepared that was used in my testimony before the sub-committee of Ways and Means. And this gives, therefore, the movement of price levels in England for about 100 years.

England had the advantage over the United States in a study of the movement of the value of gold in the fact that for nearly 100 years she was on the gold standard, while we

had a long period of paper money after the Civil War, during and after the Civil War, and a period of first money about the time of the War of 1812. But if you will compare this chart that Mr. Hollander presented, No. 2, which gives English prices and the American prices, you will see they [fol. 1129] moved right together with very unimportant variations except during the "greenback" period. So the story, so far as the value of gold is concerned, that is told by price movements in England, is essentially the same thing as would be told if we took gold prices in the United States in the whole period. Gold being an international product, it has relatively the same movements in all gold markets of the world. That which I have described here as the chart of Dr. Hollander is the second sheet of Plaintiff's Exhibit marked No. 80. It is the same thing as the Sauerbeck chart. Dr. Hollander's chart is just a reproduction with a couple of years added, of the chart in the Harvard Review. And this chart is a more detailed one on a larger scale, but tells the same story. I do not think that the story would be different whether we used either chart.

Mr. Hyatt: If your Honor please, I would like to have this marked, and inasmuch as it is Dr. Kemmerer's chart, I would like to have it photostat/ed and copies made of it. If there is no objection, have it temporarily marked, that is have this one marked and then have a photostatic copy used.

The Master: And substituted.

Mr. Hyatt: Yes. I offer it as defendant's Exhibit No. 52.

(Marked defendant Attorney-General's Exhibit No. 52.)

[fol. 1130] The first point I would like to make is the extent of the variations. If you look at this Chart, Defendants' Exhibit No. 52, or this Chart, Plaintiff's Exhibit No. 80, Sheet 2, you will notice very striking fluctuations in the price levels. The price level in these charts so far as England is concerned, represents the value of gold, for England was a free or practically gold market during most of that time. The value of gold is measured in this way: You will see it is subject to very wide variations, when viewed over any considerable period of time. The following variations you will observe if you will refer to this graph: From

the year 1825 to 1832, right here (indicating), meaning Defendants' Exhibit No. 52. Prices fell from an index number of 117 to 89, representing an increase in the value of gold of 31.4 per cent in seven years. These are the Sauerbeck figures I am giving. He may have adjusted those figures to another level. I don't know. From 1840 to 1843 the price level declined from 103 to 83, representing an increase in the value of gold of 24.1 per cent in three years. In the year 1848 prices fell from 95 to 78, representing an increase in the value of gold of 21.8 per cent in one year. Then came the great rise in prices following the California and Australian gold discovery, in which period prices rose from 75—an index number of 75 in 1851 to an index number of 105 in 1857, representing a decline in the value of [fol. 1131] gold of 28.6 per cent in six years. Following 1873 prices began a long period of decline, falling from 107 in 1873 to 61 in 1896. I haven't the figure here worked out for the amount of increase that represents, but it is simply a mathematical calculation, and if I may I will give that figure later. I am speaking of England only, in every case. From 1896 to 1913, the last complete year during which England was on an unrestricted gold standard, prices rose from 61 to 85, representing a decline in the value of gold of about 28 per cent in seventeen years.

I came then over to the United States for further figures, because when England gave up the gold standard during the war, we retained the gold standard, or approximately the gold standard, there were a few little restrictions here, it was not 100 per cent Simon Pure gold standard, but it was pretty near, and the United States is the best illustration of what the value of gold was during the war. From 1913 to 1920 wholesale prices, according to the United States Bureau of Labor Statistics index numbers rose from 100 to 226. That is the average for each year in each case, from 1913 to 1920. If you take the high point in 1920, May, you have a figure of 247, but this figure 226 is the average for the year. This represented a decline in the value of gold of about 56 per cent in seven years. From 1920 to March, 1924, prices fell from 226 to 150, representing a rise in the value of gold of about 51 per cent in four years. I think [fol. 1132] plaintiff's exhibit tells the same story. They are the Bureau of Labor figures. I took them from the official

figures of the Bureau of Labor Statistics. From these figures it will be seen that wide fluctuations in the value of gold have been common, and that great advances in the value of gold are approximately as frequent as great declines. One time the curve is going down; another time it is going up. The market value of gold, much like the market value of any other commo lity, is measured by its command over all kinds of goods and services, is at any time the resultant of the inter-action of those forces of demand and supply, and those forces are world forces, prices levels continually varying so that to equilib-rate the demand to supply, as I said before. In gold standard countries gold never depreciates and the price level never rises except as the supply of gold increases relative to the demand; and, per contra, gold never appreciates and the price level never falls except as the supply of gold decreases relative to the demand. It is a question of supply and demand. In the Civil War we went on a paper money basis and we continued on a paper money basis from the early days of the Civil War until practically the end of the year 1878. Legally we returned to specie payments January 1st, 1879; actually we were back on it a couple of weeks earlier than that. During that period, of course, there was a relative contraction of the paper money of the country. I say relative contraction, not meaning a reduction of the quantity [fol. 1133] very much, but a reduction of the quantity relative to demand. That is, the supply decreased relative to the demand. But we have all the time during that period figures of the value of gold in terms of greenbacks, and we can express the price levels in terms of gold in the United States during that period by simply converting greenback prices into their gold equivalence at the market rate of gold today. And we also, of course, have the gold prices in England during that same period. Now, the striking fact which everyone is familiar with is the great decline in prices that took p-ace from about 1873 until about 1896 or 1897. That was the decline in prices that gave rise to the great bi-metallic controversy, international bi-metallism and Bryanism in this country and (indicating) here is 1873. That is the peak then of gold prices; and you will see the index number here in 1873 was 111, and it struck

away down here sixty-odd, I will give the figure, about 1806. That is pretty nearly cutting the price level in half, from 111 to about 60. Now, that decline in prices was world wide; we had it in the United States, and they had it in practically all other gold standard countries in the world. I have a table here that I have extracted from one of my University lectures which gives the percentage decline in most of the leading gold standard countries of the World at the time. This is the way it runs: The United States from 100 to 61. I will just give round numbers. England, from 100 to 55, Sauerbeck index numbers, and Board of Trade index numbers from 100 to 58; France, from 100 to [fol. 1134] 57; Germany, from 100 to 59; Belgium, from 100 to 56; Australia, from 100 to 58; Denmark, we haven't the figures for 1873, but from 1875 down, from 100 to 64. It was a world wide movement in every gold standard country, and that was, of course, the great decline in prices, as I say, which led to the bi-metallic controversy, which raged over the world for so many years. The average price in the year 1873 is taken as the basis, 100, just as in the Bureau of Labor index numbers the base year is 1913. I have reduced all of this to the basis of the index number for 1873 as 100, so as to show the extent of the decline from that year, but that 100 is not the same as the 100 of 1913. The point is this: In each case these are percentage figures; in each case you must take a base year which represents 100 per cent. Of course, you could not take the base year 1913 very well for the period 1873 to 1896, which was before 1913 came. And in these figures I am quoting the percentages as presented in terms of the average price level of 1873 as 100, and these are percentages of the figure for 1873. In the case of the other figures we are using the Bureau of Labor Statistics figures of the year 1913 as the base. In the case of the Sauerbeck index numbers the base is the average of a ten year period, 1867 to 1877, but in each case the fluctuations are percentage fluctuations, so it would not make much difference. The 100 in 1873 would not be on the same line as 1913. 1873 will be lower than the [fol. 1135] price in 1913, but in each case it is a percentage figure. You can use any figure you wish to as 100, and divide everything through just by a constant figure, it does not change any. In whatever period of time you fixed your

case, the same relative fluctuations are disclosed, in the price level movement. The only difference is if you take a very low base where you are dividing everything through by a low figure, when you chart it or express it, it makes the figures look bigger. But these are all percentage figures, and you divide all the figures through by a constant. It does not change their relationship to each other. For the past five years, May, 1920, 247, was the absolute peak point in this price level as expressed in terms of gold. There are analogies between the history following the peak point of 1873 and the peak point of 1920 in these price levels expressed in terms of gold values. You had a very substantial decline in prices from 1873 to 1896, and you have had a very substantial decline in prices from May, 1920, until a few years ago; the last two or three or couple of years the price level has been fairly constant. I think a good many of the forces of the cause of decline are similar. Of course, conditions differ at different times. Let us, perhaps, analyze that. Take the decline from 1873 to 1896; there were, I suppose, two big causes, according to the general consensus of opinion among economists for that decline—a great deal of controversy over it during the bi-metallic [fol. 1136] period, but now with that controversy over, I think the consensus of opinion is pretty well established—and that is that the greatest cause was the increase in the demand for gold. From 1873 to 1896 there was an enormous increase in the world's demand for gold for monetary purposes, and that increase took two forms. In the first place, it took the form of the adoption of the gold standard by countries that had formerly been on other standards. For example, the impetus was given when Germany, at the end of the Franco-Prussian War decided she would adopt the gold standard, and so the German Empire went on the gold standard in 1871; Holland in 1873; France, then, which had been a bi-metallic country since the early part of the century, and had been using large quantities of silver, closed her mints to the free coinage of silver and went over to the gold standard in 1873; Spain in 1874; Norway, Sweden and Denmark in 1875; we nominally gave up bi-metallism and adopted the gold standard in 1873, the so-called "crime of 1873" that they talked about during the bi-metallic campaign, but we were actually on the paper

basis from 1877 to 1879, so our influence was not great until 1879; and India started to go over in 1897, and other countries followed. The early seventies and eighties was a time when the world shifted from bi-metallism and silver largely to gold, and this represented a tremendous increase in the demand for gold as a primary metal as the standard money of the world, and that tremendous increase pushed up the value of gold enormously. Then, not only did the world adopt the gold standard at that time on an [fol. 1137] extensive scale, England having been the only important country that had a gold standard before for any length of time, but the world experienced during that period a great expansion of trade and production and transportation, the opening up of new countries. That meant then that if the physical volume of business that was to be done was greatly increased, you needed more money, and if you were using the gold standard now instead of bimetallism or silver, you needed more standard money in the form of gold; so more money was needed, and the demand for standard money became centered on gold, where formerly it was largely on silver. You can get a little line on the second point,—the great expansion of trade and commerce during those years. In the little book on money and prices which I referred to in qualifying, I made a study of the growth of the physical volume of business in the United States for a period of years, and I took into account a large number of factors. I took the increase in population; I took the total tonnage entered and cleared in American ports; I took the tonnage of American railroads, freight traffic; the consumption of bituminous coal; the consumption of anthracite coal; the consumption of production of pig iron and the consumption of sugar. I took a large number of factors and reduced them to an index number basis, and combined them to see if I could get a picture of the growth of the physical volume of business during that [fol. 1138] time, regardless of prices. This was tons and bushels and so on. And I find that, taking the average of the years 1883, 1884 and 1885 as 100, that the growth of business from 1879 to 1896—I have to take 1879, for I am talking of gold and that was the year we returned to the gold basis—in the study of production. The index number of the average of this group of indices rose from 70 in

1879 to 131 in 1896. It was lower in 1896 than in 1892, because that was the end of that panic and depression, so it was 140 in 1892. It rose, then, from 70 in 1879 to 140 in 1892, then reacted somewhat and stood at 131 in 1896. Well, there is an enormous increase. That is as to the United States. There is an enormous increase in the physical volume of business. Another little test which tells much the same story is that this was a period, of course, in which we opened up our west to a great extent, a great increase of railroad mileage, opened up our railroad system, and I find that the official figures show that in 1873 the mileage of railroad lines in operation in the United States, in round numbers, was 70,000. I will give the nearest thousand. In 1896, 187,000, much more than double in that time. In other words, here was a time when the United States and the world was expanding very greatly in its business, and when the world was changing from a bi-metallic standard and silver standard to a paper standard, and those two factors meant a tremendous increase in demand for gold. The [fol. 1139] other factor is the decline in the rate of production of gold. There had been an enormous increase of the world's gold production in the 50's as the result of the California and Australian discoveries, and they kept up for some time, but about the early 70's that increase was petering out, and we had, during the period of 1873 to about the early 90's, a decline in the rate of gold production. For example, the world's actual gold production, average annual gold production for the five-year period 1851 to 1855 was 6,410, in round figures, ounces in thousands; in 1856 to 1860 it was 6,486; from 1861 to 1865 it was 5,950; 1866 to 1870, it was 6,270; then from 1871 to 1875 it was 5,591; 1876 to 1880, it was 5,543; in 1881 to 1885, 4,795. Here, then, was a decline in the production of gold at a time when the demand for gold was increasing enormously, and that meant the value of gold had to rise, and the rise in the value of gold was the decline in prices. They are the same thing in a gold standard country. The units that I expressed there were units of millions each. I have brought with me a chart that I use in the classroom, I just pulled it out of the classroom to bring along, that gives a picture of this graphically, of the figures that I am expressing to counsel here. (Witness produces chart.) The prices used

here have been adjusted to a different level by dividing through by a constant, so while they tell the same story, the figures themselves are a little different. I am particu- [fol. 1140] larly concerned here with the gold production, and the heighth of these bars (indicating) from the bottom represents the average annual gold production of the world as shown in part by our own figures and in part the early figures prepared by leading German economists. This means, for example, that for the ten years ending 1840 the average annual gold production was less than one million ounces. The figures are measured from this side, which is one million, two million, three million and so on up for the ten years ending 1850, in which the average annual gold production of gold was nearly two million, and then the California and Australia gold discoveries brought it up to five, and then here in 1870 they were over six million, then it dropped in the 70's and came back here before they dropped, and they dropped at just the time that the world was demanding more and more gold, and so prices which had shot up with the Californian and Australian gold discoveries, began to go down, and they came down until 1896 or so, and then the South African gold discoveries and the Klondike began to get in their work; and so on, the average annual production since then by five-year periods. Then with the war, after 1915 or 1916, the world gold production began to fall off, and it has come down here. This is the five years ending 1920, and this is the two years ending 1922 (indicating). The figures sixteen to the right [fol. 1141] of 1922 indicates sixteen million ounces. It makes no difference whether you express the value of gold in terms of ounces or dollars, because an ounce of gold is always $20.67 in the United States, and you multiply ounces by 20.67 and get dollars, and divide dollars by 20.67 and get ounces.

Mr. Moran: I suggest the Doctor read into the record from his chart there the figures indicating the height to which the yellow lines go in the ten-year periods—each ten-year period if that is satisfactory to counsel.

Mr. Hyatt: We are going to have it photostated and give you a copy.

Mr. Moran: Will you do that?

Mr. Hyatt: We will have it photostated, and I have no objection to having you take the figures.

Mr. Moran: Well, then, have it in evidence and photostat it on a different scale.

Mr. Hyatt: Yes.

The Master: It will be received and marked Defendants' Exhibit 53.

(Marked Defendant Attorney-General's Exhibit No. 53.)

The broken black line represents prices in England, the solid black line represents prices in the United States, but the base used in computing these prices is different from the base used in the other charts given, so while the methods are the same, the actual figures will show up differently. When I say the charts, I mean Defendant's Exhibit 52 and [fol. 1142] Plaintiff's Exhibit 80. The basis in this is 1913 prices, I believe. I can give the exact statement of this. Prices in England, 1840 to 1885 represent the Sauerbeck index numbers, those that I have been quoting. They are taken from the Journal of the Royal Statistical Society 1886, Vol. 49, pages 348 and 648. His years are 1867 to 1877 as 100, that is the Sauerbeck figures the average of those figures. The figures from 1885 to 1913 are taken from the United States Bureau of Labor Bulletin No. 173. Those are British figures, but taken from our Bulletin and represent the Sauerbeck index numbers. The figures for 1914 to 1915 are likewise the Sauerbeck index numbers, and they are taken from the Canadian Labor Gazette. The United States prices from 1840 to 1890 are the United States Senate Report prices, known as the Aldrich Committee report, and they take the year 1860 as 100, I believe, and then from 1890 to 1915 they are the United States Bureau of Labor Statistics prices, but in order to adjust the prices of the Senate Report to the prices of the Bureau of Labor, we have multiplied the Bureau of Labor figures uniformly by 1.14, which is an adjustment to the same level at the year 1890. In these figures that I have just given I have computed in terms of percentage, those represent percentage movements and they take the high and the low. That is the maximum to the minimum.

Covering this period of one hundred years, that I have just described of price levels,—by looking at the chart, you

[fol. 1143] will find that while there have been big movements continually, there have been from time to time short periods of comparative stability. I was looking over it to see what periods comparative stability I could find with the Jevons index numbers, and the Sauerbeck numbers, and I have taken these from Mr. Jevons' book and from the figures that are used as a basis for those index numbers. Jevons' investigations in currency and finance, the figures are given on page 136 to 137, and I find for example that in England there was very substantial stability during the four years 1828 to 1831; the index numbers ran this way for those four years; 81, 79, 81, 82. That is four years of pretty good stability. Then I find, if you take the next period, there was a jump, but take the three years, 1832 to 1834, and you have there 78, 75 and 78; if you took the three years 1836 to 1838, you have 86, 84, and 84; and broadly speaking, you will see we have had a pretty good degree of stability in that whole period there, 1828 to 1838. The highest figure I find in that whole period was 86, and the lowest 75. Then if you come down later, you will find the period 1886 to 1891, there was five years of very substantial stability. Four those five years, 1886 to 1891 inclusive, they run 69, 68, 70, 72 and 72. Then if you took the United States from 1912 to 1915 before the effects of the War were very much felt upon our general price movements, we find with those four years our index numbers ran 99, 100, 98, 101, almost no change for four years, that is, 1912 to 1915. [fol. 1144] So we have had a number of short periods, three or four years or more, of pretty substantial stability in different parts of the history of the last 100 years. I think no one can look at the charts, Defendant's Exhibit 52 or Plaintiff's Exhibit 80 without being impressed with the great instability of the price level, and therefore the great instability in the value of gold during the period.

In the period between 1873 and 1896, as to the dominant elements that controlled the variation and movement of price levels at that time, I should say the big forces that led in the decline in prices from 1873 to 1896 were, first, the increased demand for gold due to the turning of a large number of countries in the world from silver standard and bi-metallic standard to the gold standard; second, a great increase in the physical volume of business in those coun-

tries, making desirable a larger circulating medium; and third, a substantial decline in the world's production of gold, its annual production at the time when these increasing demands were being so vigorously felt. I am not adding to it or changing it in any way. That is a summary of what I said before. Those are elements which depressed prices during this period from 1873 to 1896. There was, during the period between 1873 and 1896, a shift to the gold standard. The large part of the world today, as a result of the war and post-war inflation is on a paper money basis. Some countries have returned to the gold standard, and I am inclined to think that we are confronted with a movement in the direction of a return to the gold standard, which will characterize the years immediately before us. I do not believe the world can stay indefinitely on a paper [fol. 1145] money basis, and I think you are going to have a giving up of the paper standard gradually and a return to the pre-war gold standard, probably with different monetary units, somewhat different system, but after all a return to the gold standard. It has already started; Sweden just last month, returned to the gold basis; Colombia in South America returned to the gold basis last year; and there have been strong movements in that direction in other countries. The Dawes Committee report looks for the return of Germany to the gold standard in the near future, and I found in France a good deal of discussion of the return of France to the gold standard, and in Belgium. I think that is a subject that is going to be discussed a great deal in the immediate future, as it has been in recent years, and we are going to have a gradual return to the gold basis.

Referring to the return to the gold standard and the effect it will have on the demand for gold, in my judgment one of the main reasons for the high price level in recent years has been the falling off in the demand for gold for monetary purposes, through the widespread substitution of paper for gold and the giving up of the gold standard. England is on a paper money basis; France, Germany, Italy, [fol. 1146] Belgium, practically all of Europe is on a paper money basis, and all of South America except Colombia is on a paper money basis, and most of the world is to-day on a paper money basis. A large part of the world, or most of the advanced countries of the world, were on a gold stand-

ard before the war. I think the evidence is very strong that the lessened value of gold in the last few years has been due primarily to the lessened demand, due to the substitution of paper for monetary standards. Now, if there is a return to the gold standard, a return in the direction of pre-war monetary bases, there will be a resulting increase in the demand for gold and there would be set into operation forces that tend to increase the value of gold and bring the price level down. In other words, if Eurpoe comes back to the gold standard, that return to the gold standard will result in an increased demand for gold; we will lose a considerable amount of our gold. Gold will go back into circulation in Europe, and the value of gold will go up. In other words, that will be a very strong factor for pushing the price level down. I spent approximately a little over four months in Europe, beginning January 1, 1924. There is a strong agitation in England for a return to the gold standard, and a very important committee report was made a few years ago recommending it. The Dawes Committee report recommends the return of Germany to the gold standard promptly and the establishment of a new bank on [fol. 1147] the gold standard basis, and contemplates that taking place. There is a great deal of sentiment in France in favor of a speedy return to the gold basis, and also in Belgium and in Italy. I can not speak for the other countries, but I spent some time in Spain. Howere, Spain's exchange is fairly stable now, and I did not discuss that question while I was in Spain, but there is no question but what there is a feeling of uneasiness everywhere because of the unsafety of the paper money exchange and the strong desire to get back to the gold standard. There is agreat deal of agitation in favor of getting back to the gold standard. In Central American and South American countries there has not been an adherence to the gold standard. There is no South American country on the gold standard except Colombia, and I am very proud of the fact that I was instrumental in getting Colombia to go back to the gold standard. One or two of the Central American countries may be said to be on the gold standard; Salvador is on the gold standard, and Mexico is practically there. Sweden is on the gold standard, and there are one or two other small countries in Europe, but not many now. Some

of them are near the gold standard, like Switzerland and Japan and Canada, but they are not squarely on the gold standard. With a return to the gold standard I think a large part of the gold actually here in the United States will be moved to Europe. Before the war we had in the [fol. 1148] United States, roughly speaking, something like 22 per cent. of the world's supply of monetary gold. At the present time we have approximately 48 per cent of the world's supply of monetary gold. That is, for a number of years gold has been flowing to our shores in large quantities, as they displaced it in circulation over there in Europe by paper money. The introduction of the Federal Reserve system in this country, with all the economies that represented, the increased efficiency in the use of money, the increased rate of turnover and all that, would probably enable America to get along with a smaller percentage of the world's supply of gold than it had before, because of the economies we have so thoroughly established, and because of the improvements we have made in our currency and banking machinery, so that if we had 22 per cent or thereabout of the world's supply of gold in 1913, I should think that after the thing has settled down to normal again, we could get along with less than that. Now, we have 4.3 billions of the world's gold now in the treasury vaults of the United States and the Federal Reserve banks and the vaults of the Federal Reserve agents. We have pretty nearly one-half of the world's total supply. I expect as the world gets back to normal again, as I think it will, that the gold will flow out and distribute itself over the entire world in much the same proportions as before. Perhaps there will be some differences, due to differences in develop-[fol. 1149] ment; Russia will probably be slower in getting her proportion because of slower development, for instance, and there will be minor changes here and there, but I do not see why, roughly speaking, in the new distribution when the world gets back to the gold basis, we can not get along as I have outlined, because of the greater economies which we have perfected in our system, through the economies effected in the Federal Reserve system. I have been interested for a long time in index numbers of the physical volume of business. So far as I know, the first index number on the physical volume of business, certainly of any

proportion at all, was the one that I mentioned this morning, contained in my little book covering the period from 1879 to 1908-1909. Since then there have been much more elaborate indices worked out by the Federal Reserve Board. They prepared one, and the New York Federal Reserve Bank has worked along that line. Prof. Steward who is now secretary of the Federal Reserve Board, on his own hook worked out a very elaborate one, and there have been quite a number. Broadly speaking, they tell much the same story, and the story they tell is out of harmony with the popular impressions of a few years ago; that is, the popular impressions of a few years ago were that there would occur numerous changes, great revolutions in a short period of time in the physical production of a country. I think the modern testimony is that these apparent great changes in [fol. 1150] the productivity of a country have been largely an expression of price changes and that after all, year in and year out, the number of bushels of grain produced, the acreage and the amount of coal the products of manufacturing establishments, and so forth, measured quantitatively, do not change very greatly; on the whole, they increase from year to year pretty steadily. There are some drops and some advantages, but by and large there is a fairly uniform increase; of course there are interruptions of one sort or another, but it is my impression that the figures show over recent years in the United States, taking a considerable period of years, that the normal rate of growth of physical productivity is something like in the neighborhood of 3½ per cent. a year, but of course 3½ per cent. a year in a country like the United States is a pretty big increase in your physical productivity. The principal compounded at 3½ per cent.,—and this is compounded each year—will double itself in twenty years and some days, 54 days, I believe, so that even that sort of an increase would double the total products of the United States in twenty years, which is a pretty substantial thing.

So far as the rest of the world is concerned, and we must of course view this question from the world point of view, because the value of gold is market value and the market is a world market—I think it is reasonable to expect that after a period of great disturbance like the world war, and the [fol. 1151] after-war reaction, that many countries will

come back during the next few years and, when they do begin to come back vigorously, they will come back at a much more rapid rate. Take a country like Germany, when it is all shot to pieces as a result of the war and the great inflation of money and the large amount of money production —well now, Germany as she comes back, is stabilizing her currency and she is learning new methods of production; there have been big advances, and I therefore expect that in the earlier years this reaction will be very pronounced. It is the same way in many other countries, that is, they have been way down during this after-war period, and, when they come back, the rate of growth during the first few years or the first considerable number of years, is likely to be very rapid. They learn new methods, learn things from the United States and production will be on a large scale. In parts of France a great many of the old factories were blown to pieces and destroyed during the war and much of the old antiquated machinery was destroyed; they are now coming back with new machinery and with new methods and I expect the rate of increase in Europe, when they do get started back, will be for some years higher than normal. In South America certainly that is my observation, and I have spent a great deal of time in South America lately. I have spent fourteen months in South America in the last two years, and I think they have learned many lessons. The world is going to come back, our trade in [fol. 1152] South America is considerably greater than it was before the war, and so it would be my expectation that the physical productivity and the expansion of trade in the next ten or fifteen years will be very pronounced and very much more than the normal peace-time rate of advance, but yet I can not prove it. Ordinarily, a war period is a period of diversion. You stop producing the things of peace and you start producing the things of war, which you blow up and blow to pieces. You let your plant go into disrepair; that is, you do not keep up the maintenance of your plant. You pay very little attention to the products of peace, in order to be able to get the maximum result in producing the things of war, and then you blow those things to pieces. You don't pay so much attention to your costs in time of war; the one thing is to get the product out regardless of cost, so that war time is likely to be a time of rather waste-

ful methods. That requires the world, as it were, to catch up in the volume of production, so that after the war there is quite likely to be a period of reconstruction. It is quite likely that there will be great adjustments due to the war, and after the world gets its breath or the countries concerned get their breath, they are quite likely to go ahead at a faster rate for a while. I do not say indefinitely, but for a while. From the facts that I have given, I would not be able to state what the future course of price levels would [fol. 1153] be. It would take a very courageous prophet to do that, in view of what has happened in the past, but I might make a guess. I have spoken of the increased demand for gold that is likely to take place now, first through the fact that the world is likely to return to the gold standard from the paper money basis, and, second, that the world is likely to expand its trade and production and commerce very rapidly in the next few years and there will be an increased demand for gold. It is rather interesting to note that those two factors which we discussed in connection with 1873 to 1896 in connection with the gold standard and the increase in expansion in trade, is now accompanied by the third factor from 1873 to 1896, and that is the decline in the world's gold production. The figures here are rather interesting in that connection. They are in millions of dollars, but if you want to put them in ounces, you can just divide by 20.67 right straight through. The world's annual gold production averaged from 1881 to 1885, $102,000,000. From 1886 to 1890 these are all five year periods $113,000,000 per year. This is the average annual production by five year periods.

From 1891 to 1895	$163,000,000
From 1896 to 1900	257,000,000
From 1901 to 1905	323,000,000
From 1906 to 1910	434,000,000
From 1911 to 1915	459,000,000

[fol. 1154] That is over four times what it was from 1881 to 1885, and that was the maximum, 1911 to 1915. Then from 1916 to 1920 it dropped to $392,000,000, and the last two years it has dropped from $392,000,000 to 325,000,000, so there is a drop from 1911 to 1915 with an average production of $459,000,000, in 1921-1922 to an average production of $325,-

000,000, and that is something like 30 per cent or so drop, and that is an enormous drop. It is a bigger drop, I believe, percentage wise, than the drop you had from 1873 to 1896. (Witness handed a sheet of paper wherein the amount of gold in the United States and the value is computed). That is taken from the annual report of the Director of the Mint for the year 1923, which I have right in my hand here, so it is very easy to check it. The first two figures are right. As far as I know, they are all right. Here is the volume and the page which I am using in my testimony, (indicating). This puts into figures what my chart, the last exhibit, shows. Here (indicating) is the decline in the world's gold production from 1873 to 1896, dropping off this way (indicating). Here is the decline from 1915 to the present time, so you have the same courses returning to the gold standard, increased expansion of business and the decline in the gold production, and it looks to me as if fundamentally the same forces were at work now as were at work in the early period. I may say that the figures on which it is based are these figures taken from the 1923 report of the United States Di-[fol. 1155] rector of the Mint, pages 234 and 235. On that sheet of paper, there is a computation made in terms of percentage of the decline in the production of gold. They look all right, but it is very easy to test them, it is simply a matter of division. I did not prepare what is set forth there from 1851 to 1855. It is the percentage decrease in the production of gold according to these figures, in the production of 1851 for a five year period, 1851 to 1855, as compared with the five year period from 1881 to 1885, and it shows that that was 26 per cent. That is, that prior decline or that first decline was 26 per cent, whereas the decline that they had now from 1915 to 1922 is 32 per cent. This recent decline is a larger one than the decline which took place before the great fall in prices or during the great fall in prices from 1873 to 1896. This last figure I gave I think is a seven year period. The first one is the decrease for two five year periods, an average of two five year periods. The second one is a decrease from the year 1915 to the year 1922. One is a five year average and the other is from that year to the present year. This is shown in the report of the director of the Mint. They give part of this by periods and the latter part year by year. I have reduced this to in-

dex numbers, and I find that if you take the average—this is the world's production of gold,—taken from these figures, I have just expressed them in terms of percentage, and they [fol. 1156] were taken from the report of the Director of the Mint. If you call the $102,000,000 which was the annual production for the five year period from 1881 to 1885—if you call that 100, then the average annual production for the five year period from 1911 to 1915 would be 427; that is, 4.27 times that of the first period, and the index number for the last two years would be 319, a drop from 427 to 319 in the index number, for the years 1921-1922. It is the first two years of the next quintennial period. We have not the 1923 figures.

I have an opinion based on my studies and investigations as to what the future trend of prices will be for the next few years. I am inclined to think—and I express this with a great deal of hestitation, after seeing what has happened and realizing how dangerous it is to predict these things—I am inclined to think that we have not reached bottom yet. I am inclined to think, since we are in the neighborhood of 152 and we have been hanging around that point for some little time—I am inclined to think that when the world comes back to the gold standard, when this expansion takes place and when Europe demands more of our gold, that the price index number will jog down somewhere about 140, or possibly a little less or possibly a little more, but to be safe I would say somewhere in the neighborhood of between 135 and 145, before we get things settled down. Now, it may go considerably lower or it may not go so low; it is a dan- [fol. 1157] gerous thing to predict, but I don't think we have quite struck bottom yet, because this expansion we are talking about and this return to the gold standard is going to take a great deal of our gold away and is going to affect the value of gold. I am mentioning certain forces that I think are making the price go down. This falling off in the production of gold, this return to the gold standard and the expansion of business, and there are other forces that make in the other direction. There is the increased efficiency in the use of gold. there is the increased rate of monetary turnover, there is the increased rate of deposit turnover; there is the probability that perhaps less gold will be used in hand to hand circulation than before, and

various economies that we have learned a lesson in regard to as a result of the war experience, so there are forces in one direction and forces in the other direction, and you have got to balance them up and find out whether the resultant of these counteracting forces. Now, my feeling is that the resultant will be a further decline in prices, but it is a dangerous thing to try to be sure of, because each one of these factors must be counted—it is easy to count them, of course, but they must be weighed, and that is not so easy.

[fol. 1158] Cross:

On Sheet No. 1 of Plaintiffs' Exhibit 80, which shows general price levels from 1913 to 1923, inclusive, regarding the forces that brought about the rise in prices from 1913 to 1922—I would say that the principal forces that led to the increase in the price level from 1913 to May, 1920, when it reached its maximum, were the inflation and varying forces incident to the war. These are some of the more important things that happened and that led to that: The United States passed the Federal Reserve Act, and in that Act, they reduced the legal reserve requirements to something like one-fifth of what they were before. Let me illustrate:

The National banks of New York City in 1913 were required to keep a 25 per cent. reserve against deposits, demand deposits and time deposits. Under the Federal Reserve Act they are required to keep a 13 per cent. reserve against demand deposits, and a 3 per cent. reserve against time deposits, as against 25 per cent. in 1913; but in 1913 that full 25 per cent. was to be kept in their own vaults. At the present time this 13 per cent against demand deposits and 3 per cent. against time deposits needs to be kept and must be kept merely as a deposit in the New York Federal Reserve banks. The reserves are not cash, but just a deposit in the New York Federal Reserve bank. Now, the New York Federal Reserve Bank is only required to [fol. 1159] keep against that deposit, 35 per cent. reserve, and that is a reduction of less than one-fifth of what it was prior to the war. If you took the Federal Reserve city banks, you would have to do the same thing, and if you took country banks you would have to do the same thing, but the percentage is different; so there was a tremendous de-

crease in the legal reserve requirements. Then at the same time that took place, we adopted a very efficient banking system. Instead of scattering our reserves all over the country and having the banks working at cross purposes, we centralized that in twelve Federal Reserve banks and then took those reserves and centralized them, and they now work incomparably more efficiently than before, our banking system works better than it did before; so that we need very much less gold to do the work and our deposits turn over more quickly, our currency turns over more quickly, so we have a very much more efficient use of this gold. Now on the other hand just at the time we did that, the whole desire was to win the war, and we said "Let us use this to the maximum, let us expand," so we expanded our deposits, our Federal Reserve gold certificates and our notes; we withdrew our gold coin from circulation and put in place of them Federal reserve notes. The gold certificate has 100 per cent. gold reserve against it, and we substituted a cheap money with only 40 per cent. reserve against it instead of having dear money requiring a large [fol. 1160] reserve, and we expanded and expanded our circulating medium until it was nearly double during the war. Not only that, but during the early days of the war, Europe had to have goods from us. She could buy all sorts of goods from us, but she could not sell us anything, she was too busily engaged with other things, so she bought all sorts of goods from us, but she could not pay for them in gold, so she paid for them in securities, paid with her bonds, and as a result of that Europe went off the gold standard and sent to us great quantities of her gold. That is the reason why our gold supply increased from less than two billions to over four billions, so that we got Europe's great supply of gold coming in at the very time that we were reducing our reserves and making our production more efficient. Then up went the price level to two and one-half times that it was in 1913. Meanwhile Europe gave up the gold standard and went to paper, so that all the gold circulating all over Europe was withdrawn from circulation. Now, if you substitute paper for gold, gold gets cheap. When I lived in the Philippines some people used to use rice as a vegetable, and other people used to use potatoes as the main vegetable. Now, it is obvious if you

shift from one to the other, if you shift from the use of potatoes as your main vegetable to the use of rice as your main vegetable, you lessen the demand for potatoes, and [fol. 1161] potatoes get cheap. Well, they shifted from gold, the great medium of exchange, and went from the gold standard to paper, and they dumped the surplus supply of gold largely into the United States and gold got very cheap, because the demand fell off. Gold prices went up the world over, measured in terms of gold, and that is the principal explanation. It did not equal production during those years, for that production fell off. It is always bound to fall of- when prices rise. Gold is a peculiar thing in that regard. It is a very peculiar commodity in this respect, that the price of gold in a gold standard country never changes. The price of an ounce of gold is always $20.67. If you were to find under the City of Brooklyn here gold in such large quantities as you have with anthracite coal in the anthracite coal regions of Pennsylvania, gold would still be $20.67. You can take an ounce of gold to the mint and have it coined and it will be $20.67. Then if you melt down your gold you will have $20.67 and it again becomes an ounce of gold, so the price of gold never changes under the free coinage of gold and the free gold standard; but what happens is this: The more gold you pour on the market, the higher is the price of everything else. As gold gets cheaper, the price of gold does not go down, but the price of everything else goes up, including cyanides, and so forth, but the gold miner gets the same old price for his gold. He can always sell it in unlimited quantities, but only at that fixed price. Substitutes come in for [fol. 1162] gold and gold gets cheaper, he finds that his costs go up, and the higher his costs go up, the less he mines, and that is the reason why the gold production is so small now and why it has been so small for some time, because the costs of mining have been so great, and the miners have been pleading for a bounty on gold production and all sorts of things, to do something for the production of gold. That is the explanation. I have not told anything yet about the 1923 production of gold as we have not the figures for 1923. Monthly figures have been published from time to time, and I stuck a slip of paper in my pocket to-day that I ran across in regard to the rand mines, if I can find it.

This came from the New York Times of to-day: "Rand mines reports drop. Net income for 1923 is 23,418 pounds under that for 1923." So there is a decline in the profits but just what the figures are for the production I don't know. However, this is from today's paper. The peak here in the production of gold in the world was just before the war, I think it was 1915, during the war or before the war it began to have its bad effects. The largest production in the world's history was 22,678,000 ounces, or $478,800,000, in round numbers, in 1915. I always speak of world prices, because if it is a world production, there is no use in taking prices separately. The 1922 figure is here in ounces, 15,-440,000, and in dollars $319,178,000; in round numbers, a drop from $469,000,000 to $319,000,000. I mean million ounces in each case. The drop in ounces was from 22,678,-[fol. 1163] 000, in round numbers, to 15,440,000 in round numbers. The total gold stock of the world, monetary stock, at the end of 1922, according to the Director of the Mint, was $9,210,000,000. It was a great deal more than it was at the end of 1915, from $300,000,000 to $400,000,000 a year which has been accumulating, of course. A lot of it has gone into the arts and for industrial use. We had in April in the United States, in the Government Treasury and in the Federal Reserve Bank, about 4.3 billion out of a total at the end of 1922, according to the latest figures available, of 9.1 billion, which was pretty nearly half. If we had the same percentage we had before the war, we would only require about two billion; less than half, and the chances are that we won't need as much as that, because of these economies in the Federal Reserve System to which I have referred.

As to which is more responsive, the importation of gold or the utilization of the gold here as a part of our monetary system,—that would be a very difficult question to answer, because that would have to be worked out mathematically. They are both very important forces. I would say at the moment, however, that they have done two things, they have gradually reduced our legal requirement, although our actual requirements are far above the legal requirements. Nobody can tell in regard to that, but at the same time we have gotten into this country over two billion [fol. 1164] dollars in gold more than we had in 1913. Now,

just how much each of those factors weigh, I can not say. Our circulating medium, all told, increased in the same proportion as our gold importations for quite a period. The term "circulating medium" is a rather difficult term to use, because it means something very different now than it meant in 1913. In 1913, for example, practically all of the reserve money of the country was counted as actually in circulation, because it was in the vaults of the banks, the individual commercial banks. Now, the reserve money in the country is practically all in the Federal Reserve Banks, or a large part of it, the great bulk of it is now in the Federal Reserve Banks and in the Treasury, and when you speak of the circulation figures now, you deduct that which is held in the Federal Reserve Banks, but that is performing the same function now as that which was held in the member banks before the war, and the result is that the terms are not comparable at all. I have tried to work that out in some detail in a little book of mine. There was what you might call a monetary inflation from 1913 to 1922, and that brought about the rise in prices, through this mechanism that I have been explaining. I have been explaining how the monetary inflation worked. We had more dollars to deal with in proportion to the commodities to be dealt in, and that brought about the rise in prices. That always happens unless there is some counteracting force that comes in. I [fol. 1165] am afraid of the word "always" in such matters, because I have seen some very peculiar kinks. You can lay this down as a general principle that if you increase the supply of money relative to the demand, and your rate of turnover remains the same and your use of checks and money substitutes remain unchanged, why then, your price level goes up. It is a question of demand and supply. I was asked to account for the forces that brought about the rise in prices. I said, to summarize it, that it was an inflation of the monetary system—a monetary inflation. I have not come to that conclusion simply because there was an inflation, and because there was a rise in prices. I would draw that conclusion on the basis—if I had known that there was no rise in prices, if no one had told me these things had happened, I would say that a rise of prices would be inevitable. The reason is not because the history bears me out, but economic laws. History is not wrong, but on

the other hand, if your economic laws are wrong, then there must be something wrong with history. I think economic laws existed first, but perhaps people did not understand them. We had a drop from 1920 down to the middle of 1921, about a year of decline. I can account for that. During that period people were increasingly uneasy that this bubble was to burst. That is, we had been inflating, and inflating and inflating. Our Federal Reserve Bank started off with over 100 per cent. gold reserve and kept inflating and bringing down the gold reserve until it got down [fol. 1166] to practically the legal limit. The rest of the world had gone off the gold standard; an actual premium on gold appeared in California in certain small transactions, and there was an increasing uneasiness everywhere that the bubble was going to burst. There was strong pressure on the Federal Reserve people; organizations were saying that the Federal Reserve people were keeping their discount rate too low, that they were doing it in order to create a good market for the Victory loan and certificates of indebtedness, and everybody right along criticised this low discount policy and there was increasing uneasiness. Now, finally the Federal Reserve authorities acted and increased the discount rate, and that increase of the discount rate was practically a declaration that "We think you have gone too far and we are going to put it up higher and higher if necessary." At least, that is the way the public interpreted it. "We are going to stop this inflation, it has become dangerous. We are going to stop this runaway cost of living," and so they did. Shortly after that the reserves began to pile up and prices took a fall. Now, if you think that prices are going up, if an inflation of prices in operation and you see the discount rate down and the Federal Reserve Banks lending freely to the member banks and the member banks lending freely to the public, and bank notes are being thrown into circulation in increasing quantities, you have what is often called as seller's market; that is, the merchant every day sees that prices are going [fol. 1167] up, he buys his raw material to-day, he buys at one price and he finds from experience that two weeks later if he had to buy that raw material, he would have to buy it at a higher price and he anticipates that, and the tendency is, with prices going up, for everybody to buy.

The manufacturer has a tendency to buy his raw materials, the tendency of the wholesaler is to load up his inventory, the tendency of the retailer and everybody is to buy now and accumulate, because prices are going higher, and the result is that there is an appearance of scarcity of everything, because people are piling things up as a result of that, and you have this seller's market and you have a great scarcity of goods. That continues up to the point where people think that things have reached the limit, and then they become increasingly uneasy. Now, when the Federal Reserve authorities raised that discount rate and took a vigorous stand, that was the turning point. I have no confidence in all this talk about a buyer's strike. I don't believe there was a buyer's strike, but that was the term used, and people said "Now we have reached the climax, this thing can not go on any more, it is going down." Now, the minute you change your psychology there, you bring in an entirely new development. The loading up of inventories, and so forth, is the psychology of the seller's market, and then there is the psychology of the buyer's market. Prices are going down, they say, and everything that we have to-day is going to be lower to-morrow or next week [fol. 1168] or the next month. The manufacturer says "I am loaded up with raw materials; I don't want to buy anything now; I don't want to take on anything more now, because prices are going down," so he holds off. The wholesaler says "If prices are going down, I don't want to buy anything and, furthermore, just look at these inventories; I am loaded up in anticipation of further advances," and so he begins to hold off. The retailer says "I will just let myself go, because it will be cheaper next week, or next month or next year," so instead of anticipating a rise, they are anticipating a fall and everyone who has a stock wants to sell, so things go down quickly. We had an inflation after the war, and we took that up after May, 1920, in this way: There was a change in the rate at which money turned over, there was a change in the reserves of the banks, and there was an entirely different attitude of the public in their psychology toward purchases and accumulations. Raising the discount rate tends to exert a force in that direction in contracting the monetary system. It may or it may not reduce the number of dollars. Sometimes

a market refuses to respond very much to a rise in the discount rate. The important effect of raising the discount rate was a sort of deflation, to reduce the number of dollars to do business with, actually physically reduce them. It would reduce the monetary volume. Probably from 80 to 85 per cent. of the business of the country, in this country, [fol. 1169] in the United States, is done by bank deposits. Bank deposits come largely through discounting bills. I go to the bank and discount a 90 day note for 6 per cent. for $10,000, and the bank takes out 6 per cent. interest. Say it is $1,000 and, deducting $15, that places $985 to my credit. Then I draw checks against it, and that deposit circulates by means of checks. Now, if the discount rate is up, if the Federal Reserve Bank puts its discount rate up, then the member banks have to pay more to get money from the Federal Reserve, and the business man has to pay a higher discount rate in order to get his paper discounted at the member banks. He borrows less, and that means less deposits, and in turn, that means less checks and that decreases the deposit circulation of the money. That is one of the big factors. Another factor comes right in here, and that is what we call frozen credits. The farmers, when they see prices coming down, say, "Why, this is in imposition. We won't pay for our loans to the banks." They hold back for higher prices, and so a great many bank loans were simply frozen up for a long time, simply because the farmers and others held their loans back; so that affects your rate of return. Now, then the efficiency of money is not only question of the amount of money but the rate at which it turns over. If the money of the country turns over on an average forty times a year, the same amount of money will do twice as much work and will have twice the influence on the price level as if it turns over twenty [fol. 1170] times a year, and its effect on business confidence and the discount rate will affect the rate of turnover, the volume of money and bank deposits.

In Sheet 1 of Exhibit No. 80, the line rises until 1920. It went up because of an increase in the supply of the circulating medium relative to the demand. That line goes down for twelve months from the middle of 1920 to the middle of 1921, or thereabouts. That decline in prices, or that line going down is accounted for by the same forces

that caused it to go up, only working in the opposite direction, a retraction or contraction or deflation of the circulating medium—if you interpret that rightly it is deflation, but I would not say exactly the same forces. I think you had changes in the rate of turnover then that were factors then, and influences of postwar adjustments that you did not have during the feverish days of the war when nobody counted costs, everything was price; but in the first place it was inflation; in the second place it is deflation. During the war we had an embargo on the exportation of gold, we were afraid we were going to lose some gold, despite the fact that the world was pouring gold in here in large quantities, we were terribly afraid we were going to lose some of it, and I think on the whole that was rather a foolish policy, but that is neither here nor there, but after we took the embargo off there was a brief period in which some of the countries that had been prosperous during the [fol. 1171] war pulled out some of the gold and we lost there for a short time after the embargo a few hundred millions of gold, then it stopped, it did not last very long, and then the tide turned, and the movement of gold since then has been in this direction. I suppose the reduction in the quantity of gold was an influence for the drop of prices in 1920 to 1921, but I think these other factors are even more important. In 1920 we were down to about the legal minimum. In 1920 we were practically at 40 per cent for notes, and some of the Federal Reserve Banks were below the legal minimum. We were at the danger point. So far as the amount of gold we had, there was necessity for putting on the brakes. When you get down to this legal minimum, after you had reduced the legal minimum to the extent that we had, there was a very decided necessity there. There was a great deal of anxiety on that score.

This line on page 1 of Exhibit 80 runs along about 150 there from the middle of 1921 to the end of 1923, and it has continued on to the present time. That has been due largely to this fact: We have the great bulk of the world's available gold, tremendous quantities, the rest of the metal of gold, a good deal of it is hoarded in banks that are not on a specie basis or are not using it, or tied up in hoard and so on, and we have this tremendous supply of gold. Now, as this money came into the United States, if the Fed-

eral Reserve authorities had done what they would normally do, what would be the thing in normal times that they would do, as they got more and more gold, perhaps to [fol. 1172] reduce their discount rates and expand on the basis of that gold, and we would have additional inflation and prices would have gone up, our reserve would have gone down, we would have a further inflation, a secondary inflation that was talked about a great deal. I am speaking of this whole period when the price level has been fairly stable. In 1920, for example, we had gold reserves in the Federal Reserve Banks of the country down to about the legal minimum, in the neighborhood of 40. Now the gold reserves of our Federal Reserve banks are 79. They have been the same since 1921, and they have been away up in the 70's and 80's or more. While they have been increasing right along for quite a while about a year or so ago, the Federal Reserve authorities began to let out gold, that is, they found themselves under the increasing pressure of the agricultural bloc and other people who did not like low prices and wanted cheap money; they found themselves under an increasing pressure for a lower discount rate and to let out that money and to expand. The Federal Reserve authorities felt that it would be very unwise to expand on the basis of this gold and permit the cost of living to go up again and go through another period of inflation. They thought it would be unwise, because as I understand it, and I followed the reports pretty closely and have been in pretty close touch with the Federal Reserve people on [fol. 1173] these things, and their attitude was that if you expand on this gold now and let it go out and inflate it, then when Europe comes back to the gold standard and demands gold back we won't have it, and we will have to go through a great process of deflation, which we do not want, and the thing to do is to impound this gold and pile it up, not use it and not expand on it now, and be ready for the time when Europe comes back to the gold standard, and we won't have this after-war adjustment and we can let it go out without a subsequent violent deflation. But then the people began to point to the fact that the Federal Reserve Banks had this great reserve; why don't you use it; why don't you expand; and, in part to meet that political pressure they began to pay out gold certificates in-

stead of Federal Reserve notes. In 1913 we had a billion dollars of gold certificates in circulation, and two or three years ago we had only two hundred and twenty odd millions. That would be in 1920, and now we have six hundred odd million. They have been paying them out, reducing this gold reserve deliberately in order to take away this temptation of the public to bring increasing pressure or rising prices, particularly of the sellers. We people look at it from the point of view of the cost of living do not want prices to go up; but if you are selling things you want the thing to go up, that you are selling; and the farmer has been pretty influential and has brought tremendous pres-[fol. 1174] sure and criticism to bear upon the Federal Reserve authorities for not doing it. They would expand by decreasing the discount rate, and that increases loans and increases deposits and note circulation, and down comes your gold. They have been in the position, if they wanted to do that, so far as the legal requirements of gold reserves, since 1921, I think. The figures are available in our Federal Reserve reports. I haven't right in mind now, I don't want to fix a date, but for several years. They are in a position to do it now. I followed their reports very carefully, and I have stated that they have not done it, because it would bring about inflation. That is, prices would go up as high as they were in 1920, and maybe higher, and then we would lose our gold. Gold prices go up—these are gold prices. The higher the price, the less valuable gold. That is the higher the prices, the less valuable is a dollar, and a dollar is so much gold. The minute you put prices up you decrease the value of gold. When you decrease the value of gold in this country as compared with foreign countries, gold moves out, as anything moves out, it tends to go from the cheaper market to the dearer market, and this makes it the cheaper market, and if they do that, we lose our gold and then Europe comes in later and demands our gold when she comes back to the gold standard, and it is gone and we haven't got it, and then we have to con-[fol. 1175] tract with a vengeance, and we have a great fall in prices and all the evils attendant upon a rapid fall in prices.

I cannot give any specific reference now to the report of the Federal authorities wherein they stated that they took

this action or refused to take the other action on account of the fact that gold would thereby become cheap and it would be exported to other countries, I know that is the policy of the Federal Reserve Board. I do not keep these references to pages and reports in mind, but for a number of years now I have read all the annual reports and the Federal Reserve Bulletin and I have been in very close touch with the Federal Reserve authorities in repeated conferences on these subjects, and I know from those reports, and from those conferences that there are many things they dare not put in the reports that they act on outside, that that has been the policy. I do not think I would have very much trouble in finding specific references to bear that out. We have been criticized in England extensively lately, and this whole criticism and controversy over the United States has been because of that policy; McKenna and others over there have been criticizing us vigorously for that policy of impounding this gold in this particular way and not expanding on the basis of it. If we expanded on the basis of it, gold would go down in value and volume and would bring sterling nearer par, if sterling remains the same and we make our gold cheaper, sterling is nearer par, and if we strictly adhere to this policy, they think this is a policy [fol. 1176] that is interfering with their return to the gold basis. I do not think we can lose gold except as gold becomes cheaper here than it is in other countries, because gold, like any other commodity, only moves out when it is dearer abroad than it is at home by the expenses of transportation enough to yield a profit, and I think that when Europe gets back to the gold standard, begins to demand the gold, it is going to pay for it, gold will become dearer in Europe than it is here, ubt gold will go out, and that this policy is a wise policy on the part of the Federal Reserve authorities, because I believe we ought to do everything in our power to keep prices as stable as we can. I do not believe in inflation or deflation as a policy. I think stability is the desirable thing, so far as you can get it.

We have been having a net importation of gold for some time. Had we reduced the discount rate and expanded, the first effect would have been to have lessened that net importation, we would have imported less and less, and if we had kept that discount rate low enough and continued that

policy long enough, the tide would have turned in the other direction and gold would have gone out, certainly. European countries can get gold out of this country any time they want it, all they need to do is to say we will pay for it, that is all. Europe is exporting to this country right along millions and millions of dollars of produce of all kinds. When she exports goods, she gets credit here; when she gets that credit here, she can take that credit in any- [fol. 1177] thing she wants, she can take it in gold or in wheat or in steel rails or anything she wants at the price level. The minute she begins to feel that gold is sufficiently cheap or that her needs for getting back to the gold standard are sufficiently important that she is willing to pay the price, it is worth while paying the price, she will pay it and it will go back. It is simply a matter of her willingness to pay the price. Colombia just decided last year that, after being on a paper money basis for some time, that for stabilizing her currency and inspiring confidence in her future development and floating these securities it was worth while to pay the price, and she paid the price and she has been getting the gold. Sweden has just taken that position and is paying the price and getting the gold, and any other country that wants to pay the price can get it any time, and we will say, "Take it, it is here, we want to get rid of it. We have more than we want." Up to date European countries have not been willing to pay the price. They have been able to get it all they want to, and we won't say not, because there has been every month, as the figures show, an importation and an exportation, and the exportation is to various countries and importations from various countries, but these figures that we speak of are the net figures, the net balance, and we have been getting gold, we have been getting more gold than we have been giving out, but we have been giving it out right along. Take this Dawes Committee Report; one of the recommendations of that report [fol. 1178] is that they establish a new bank, that this bank shall consolidate all the paper moneys of Germany and Germany shall return to the gold standard. The Reichsbank, isn't it? It had, when I left there, 467,000,000 marks of gold. If they go back to the gold standard they will have to have a good deal more gold than that. One proposition is to sell 300,000,000 marks of stock in this bank, sell part

of it abroad, and they expect to sell a considerable part of it in the United States, and out of the proceeds of the sale of that stock they expect to get gold to serve as a basis for redeeming their currency and re-establishing the gold standard, and if they do, part of that gold will go right to Germany. If France should decide, and there is a good deal of agitation now, to go to a gold standard, she would have to do something with her credits here, and if that came about, it would probably take a good deal of it home. It is desirable for this country to have the European countries on a gold basis. We don't make gold cheap then, so they can get it, because then the price is too low, because the minute you do that you raise the cost of living for everybody in the country, and a rising cost of living is not our policy at any time, and particularly before an election, and the minute you inflate in rising prices, you lessen the purchasing power value of every bond in the United States, and if you deliberately inflate you have lessened the value of the dollars in which the Government's total public debt is payable and people would say the United States Government is deliberately defacing its monetary unit in order [fol. 1179] to pay off its debt, and there would be a storm of protest that it was dishonorable and causing great hardship and great injustice and great loss, reducing the value of every insurance policy in the United States, every common stock, every preferred stock, every bond, every institution of learning, every philanthropic or benevolent institution, every pension—it is too serious a thing, it is not worth the price. A contraction of the currency and consequent reduction in prices, is just the opposite effect. It raises the value of the dollar and then every debtor has to pay his debt in an increasingly valuable dollar; all of the bondholders receive an increasingly valuable dollar both in interest and principal of their bonds; every pensioner receives more in his pension; the values of savings accounts go up; you have all the depressing influences of falling prices, because as prices go down people stop buying anticipating lower and lower prices, and it is like throwing a wet blanket over industry; the farmers see the prices of their products going down and they get less and less for everything they sell and they have increasingly the same old amount to pay on their mortgages; and so far as the

debtor classes are concerned, it causes a storm of protest, and it was the evils of falling prices and deflation that led to the bi-metallic campaign of the 70's and the Bryanism philosophy and both are bad. I think the agricultural bloc or rather a great many of them—are rather favorable to inflation, because they take a short view of it, and they [fol. 1180] think it will put up the price of wheat and hogs and cattle, and they do not quite appreciate the fact that it is going to put up the cost of living, and if it does, a great part of the consumption of the farmer is his own products, and there is an inflationary party in the United States, or rather a group, I won't say party, made up partly of the Farmer Bloc and made up partly of the debtor classes who would like to pay off their mortgages in cheaper and cheaper money, although the great majority of people do not see through it and do not realize it; and then there is a certain class of people who say rising prices spell industry and prosperity and everybody is happy. There is a deflationtionary group, in this respect: that I think most people that think very seriously on this thing prefer stability. At the same time, there are a good many people that think that when Europe takes this gold back we will not have enough gold left to maintain our present level of prices and that deflation will be necessary in order to get monetary stability. Furthermore, there are people whose salaries are more or less fixed, or people who are living on funded income, the bondholding class as contrasted with the stockholding class or the institution that lives on funded income and so on, and all of those classes would benefit by deflation, so far as their incomes are fixed, because they can get the same number of dollars and a dollar would purchase a good deal more. I do not think there is any organized group of that kind working to that end: I do not think they [fol. 1181] understand it enough to organize for it. I think there are a lot of people that see that their interest would be in the way of deflation, but most of the people that I know that are arguing for deliberate further deflation, are doing so, and if they are doing it at all on the grounds that a certain amount of further deflation is necessary in order to get the currency on a good stable basis, at a time when the world goes back to the gold standard. I have pointed to some periods, short though they were, of comparative

stability. The rest of the hundred years, was in my opinion more or less unstable. Stability is a very desirable thing. Any influence I have I will exert for stability, neither inflation or deflation. I think that is the attitude of most economists of standing; if we could only get it, we want it; we never had it. It is a rash thing for a scientific man to say that anything is unattainable; but I do not say that it is very probable in the immediate future. If some such plan as the Fischer plan for establishing the dollar could be adopted, we might get stability, but the world is not ready for that yet, and I am afraid that neither you nor I will see the time it is, but I hope that some time the world will be. It would be stability of price level, not stability of manufactured commodities; they would go up and down, but the price level would be stable. That which may not be attainable can be approached in a sense; we can strive for it, and I hope as our intelligences increase and we learn [fol. 1182] more and more of those forces we will approach that condition. At a time when we are in a major position that we are in now, with nearly 50% of the world's monetary gold, and with a large part of the rest of the world practically bankrupt, our Federal reserve authorities by impounding gold, and refusing to inflate on it when it comes in, just taking it in and not using it, just hoarding it and taking the loss, we are in a very strong position now, under present circumstances, to exercise an influence towards stability, because the world is so weak in its command over gold, because the world wants *offer* things, so much more than gold, they would like a gold standard, but after all, they want to feed themselves and they want to rehabilitate their industries, and all that, and are willing to sacrifice the gold standard for the time being in order to get these other post-war readjustments through, so we are in a very favored position; these are great fundamental laws that work and we are just absorbing this supply, but we can not do it indefinitely; and as soon as the world becomes reasonably rehabilitated and moves back to the gold standard, the same old pre-war forces of demand and supply, international trade and gold movements are coming back. We may have a little influence because of our strong position, but we cannot defy those laws. I think it is only because we have an over-surplus of gold at this time that we are

in a position to maintain stability. The fact that we have such a tremendous supply of gold and that the rest of the world is so weak as a result of the war and needs other [fol. 1183] things so much more, in its own judgment, than gold, puts us in a very favored position, but I do not think that can last indefinitely. With two billions of dollars or so, more gold here probably than we would need under normal conditions, we are in a position of a man that is hoarding money, but we are hoarding it because if, under present conditions, we let it out, the result will be such a tremendous inflation and such serious hardships that we cannot stand it. If we make it cheap enough it will go to other countries and go into the arts. It would be an advantageous thing for this country now if some European countries could take some of this supply. I think anything we can do to help Europe back onto a gold standard is desirable, and I am doing all I can do in that direction. We could let a considerable amount of our gold out without feeling it because we have this surplus, this big excess, but we could not let it all out, and we have got so much hoarded now that there is no question that as Europe comes back we have been preparing for this very thing, we have been impounding it with the idea that when Europe comes back she will take this gold out and we want them in taking it out not to force us into deflation, and we can give them a considerable quantity before we reach the point where we will have to deflate, but we cannot keep that up indefinitely. I don't mean to say we have been importing this gold and hoarding it for the purpose of meeting Europe's future requirements. It is coming across now, coming across all the time, but we could easily prevent it from coming in, and we can let it [fol. 1184] go out if we deliberately adopt a voluntary policy. We can prevent it coming here by reducing our discount rate and inflating. That would drive prices away up, and make gold cheap and stop it coming in, and if you make it cheap enough it would go out. I will put it in this form: We do not need as large an amount of gold to do the same amount of money work, but if our population increases and business increases, we may need more gold because we have more money work to do. I don't know just what the increase in the physical productivity and so on is, but it

would be my guess that we could move, if it was carefully handled and conscientiously handled, two billions of gold without very much deflation, if any. That would leave us about two billion. When all the European countries that I have mentioned or any other countries get back on the gold basis, I don't know how much they will need. I cannot answer that and nobody can answer it that I know of. Suppose we have a series of reservoirs at slightly different levels, and you put a large quantity of water in one of those reservoirs and then put water in some of the other reservoirs of lesser quantities, and each has its own level,—that is the level of prices and gold is the water. If you connect up those reservoirs by pipes, that water will flow out to seek its own level, or the gold will seek its own level; it will flow into all these different reservoirs and flow out of one into the other until you have an equilibrium. When you get that equilibrium you have an equilibrium of price [fol. 1185] levels or equilibrium of world values, in all the different countries of the world. At the present time, the big share of the gold is here with us, the reservoirs, and the pipes are closed up, they are not connected, many of them. The minute you open them up, this gold flows out, and no matter how much gold you hoard in the United States, or how little, when they are connected up, this gold distributes itself until you get a new equilibrium and that is the only test you can make. There has been a change in the amount of production of different countries. Russia has gone to pieces and other parts of Europe are in bad shape. The amount they will need later depends on their physical productivity, their economic situation and all that. The minute you connect them up this water will go out and if we have got too much, by two billions, we may go down to a billion and a half. It will go out until it reaches the point that gold is not worth more anywhere else than it is here. That is always a movement toward restoring world equilibrium. I cannot say whether when those pipes are all opened up and it flows out, the level in our reservoir will be too low, so that we will touch bottom. I cannot say that even if all the countries of Europe went on the gold basis, that they would draw enough gold from here to cause a reduction in the volume of our money medium, but I can say that if before the war, we had two billions of dollars,

roughly, as our share of the world's gold, and if we have put into operation all these economies through the Federal [fol. 1186] Reserve System, reducing the reserve and piping the gold, to the gold settlement fund and all that, we can carry on the same amount of business in this country with a much less quantity of gold than we did before, and we will have a less percentage of gold to the total volume of business turnover than we had before, but just what the total volume of business we are going to have in this country and in Russia is going to have five years from now or ten years, or Germany, I don't know, I can't say that. Nobody can tell; that some of this gold is going out and that is one of the forces that is going to make deflation. There are other forces which go to make for deflation. What I am arguing against is any prediction that we are going to have for the future. I do not believe it is safe to predict; one cannot anyway. You might possibly have an inflation, I think it might move the other way and then possibly you will have an inflation. One of the reasons was that when these countries get on a gold basis they will take a lot of our gold and then that will be a force working for deflation. There are forces making for inflation and other forces making for deflation. What is going to happen is the result of a great combination of complex forces, some working in one direction and some working in the other direction, and how anybody is going to say we are going to have stability of prices in the future I cannot see. I don't see any such forces. This index number of 150 is one of [fol. 1187] the indices of a price level. It is a very good one; there are others. I am not talking about the one of 1913. If you went down to that, it would be a deflation, a tremendous fall in prices. I do not think we are going back to that for a long time to come because anything might happen in 50 years. I looked Dr. Hollander's testimony over in this case very hurriedly; I only had a little time to do it, I understood he testified that we are in a way to secure stability; he may be wrong; I hope he is right. I would like to see a condition of stability, all of us economists want it. I know Professor Fischer very well. He is well rated as a- economist. I know his views on it, and have been in touch with them for a long time. When the price level was up to 250, Irving Fischer predicted that it

would not come down, it was not coming down, it was going to stay there or go higher. I did not know that it was because he said so, that it did come down. I don't know whether it is because the evils of a further rise were pointed out by him and others, but Fischer was very insistent upon the evils of a further fall. He has not been one of the men from the beginning who say above all things, let's get stability. At a time when I was arguing for a fall because such a fall was absolutely necessary to maintain the gold standard, Fischer was taking a strong stand, in favor of stabilizing it at 250 and predicted we were going to do it or go higher. That is one of the things he and I happened to [fol. 1188] disagree on although generally we are pretty close together on these things. The Professor and I were in the same case, too. We agreed pretty closely on these fundamentals. We are all firm believers in the quantity theory of money. It is really nothing but the application of the law of supply and demand of money. When prices are up as they are now, from 1917 it means the purchasing power of the dollar is low. The value of money is expressed in the price level or the purchasing power of the dollar. They are the same thing. When thinking of values at this time, you should not limit yourselves to the wholesale prices; you should take wholesale, retail prices, rent, wages and everything for which money is used. If you take those combined, the Federal Reserve authorities have recently prepared an index number on that, and it shows the index instead of being 150 now, is about 180 or 190, if you take them all together. We may think of the prewar dollar. I do not think we should go ahead on the theory that the prewar dollar is coming back next year, or five or ten years from now. If you look at the chart like the one here (indicating) you will see that in one hundred years anything can happen, but I do not see the prewar dollar in sight at the present time. Anything may happen. [fol. 1189] An earthquake might dislocate everything, or they might get gold out of sea-water, and if they do, prices will go to the sky, or it may destroy gold deposits, which may run out, or all sorts of things might happen, but I do not see in the immediate future any prewar dollar. I do not see any signs at present that we are likely to have the prewar dollar for the next ten years. When you see what

happened to prices from 1873-1896, a decline from 111 to 61, a force of that kind may come any time and start down. I do not see why it should not. I should hope that economists of our generation are better posted on these things than they were in prior generations, because we have had the benefit of everything they had and our own studies too. I hope bankers are better equipped to handle these problems than they were in former years. I talked with some bankers and with some others and I have my doubts. Lawyers, by uniting forces now of thought and action, could prevent these catastrophies. I am a member of the Research Council of the National Monetary Association, which was formerly the Stable Money League, and that association is dedicated to the work of doing everything in its power to stabilize the currency. We have been working on it for years, and are still working on it. It is made up of economists, the Research Council and bankers and publicists and that is one of the problems we are trying to solve. We may look over a chart of smallpox epidemics for the last hundred years, and we would see a wild thing, but we would [fol. 1190] not dread them at the present time because we have them under control. If we could only find a vaccine against inflation and deflation we would render a great service and I think we will. We are looking for it and I hope there are a great number of economists engaged in that undertaking. I believe until recently a business man's attitude has been that a dollar is a dollar, and of course that is true, but that means the dollar is as fixed as the yardstick or the pound weight and everything else changes but the dollar never changes, but lately through the remarkable experiences of the war and through the development and use of index numbers, and the work of economists, and the work in our educational institution, the business man is waking up, to the fact that after all the dollar is not fixed in value at all, that it changes like everything else, and that you must allow for that in all things. I have made a prediction about what we may have, and I think the result of these forces would be that prices would come down later. I have always taken that position; for a year I have taken that position. Some of my friends think that is not going to happen. Some economists think the tendency is going to be upward. I think that the resultant, of those forces some

working in one direction and others in another direction, is that we will have a further decline before we get an equilibrium, and after we get that equilibrium—by equilibrium I mean the shaking down as the result of the war. The Government at the present time is making index numbers and various other people have made a very intensive study of them. That is, both for the purpose of predicting the [fol. 1191] future and telling us of the past. I think the business public is to an increasing degree demanding careful index numbers of prices, wages, interest and so on, and they are doing it with the idea of predicting the future, because every business man looks at it in the light that he has to predict, because he is making all his plans for the future, is buying goods and making his contracts and they are all directed toward the future, and although these things are uncertain after all, a scientific estimate of them, which may often prove wrongs is a good deal better than nothing, and the world is demanding it. They make these index numbers to just keep track of the volume of money and all that for the purpose of telling whither we are tending, and if we are tending in a bad direction, to correct it. That is one of the factors. If you know what is going to happen, it doesn't happen, because you discount it and it does not happen. That is one of the forces why the Government is doing this; that is why we have business cycles that go up and down, and the better we understand the business cycle, the better we can adjust to it, but we don't know much about it yet.

Volume of Business in Certain Basic Industries, pages 3 and 4 of plaintiff's Exhibit 80, bank credit and gold reserve and Federal Reserve notes are gotten up by the authorities not simply for the purpose of quoting price statistics, but to show the situation we are in, and if there is an unhealthy condition, to correct it, so far as possible. Of course we have been doing that during this period in which prices went from 100 to 247, and then came down to [fol. 1192] 150. I think probably without those things that would have been even more drastic, and I also think all these things are beyond control as we have known it. We have tried to stabilize but after all these economic forces are world forces and while they are not easy to control and we can do but little toward stabilizing, for after all our

power is weak, then it all goes to trying to manipulate or control great world forces and I think we are making progress. Stability is desirable. A lack of it is one of the main influences which causes panics. Banks have been existing with an inadequate banking system and inadequate currency system. We have a better banking system than we had before but it is far from perfect and a good share of the world still has a pretty poor system. Some of the financiers think that our banks are so now organized as to prevent a panic such as we had in 1907, but a good many of them have doubts about it. That is one of the forces that makes for stability.

I do not think that the majority of economists would go so far as to say that we have things systematized in order to be able to prevent panics. I do say, however, that it is in better order than before, and we can probably lessen the number of panics and lessen their intensity, but the forces are so great that it is dangerous to say we have reached a point where we can prevent them. Some bankers [fol. 1193] do and some do not think that way. They do not act uniformly; they differ very much. They can place credits where they never could before to an increasing extent, not only in this country, but in this country better than in any foreign country. I do not think foreign countries have made such progress in banking and currencies since the War, because their currency has gone to pieces, it is all shot to pieces as a result of the paper money, and so forth, and they are really a great deal worse off than they were before. I have an idea how soon these European countries will get on a gold basis. I think that Germany is coming back very soon as a result of the Dawes report, and Sweden has come back, and also I expect to see France and Belgium come back. France has lately taken pretty vigorous steps in trying to balance her budget which is the first step in her currency system and her tax rate has been increased and she has very decidedly curtailed her expenditures, and her bankers and economists are devoting a great deal of attention in a quiet way to a study of methods for returning to the gold standard. While I was in France I had a number of talks with prominent men in French financial circles, including the Governor of the Bank of France, and I found a great deal of sentiment in

favor of prompt action. It is both a prompt action for a gold standard and a prompt action to better the situation. They have been getting along without the gold standard. They can get onto any other business basis; they might [fol. 1194] stabilize with sterling. It is just as easy to stabilize with sterling as it is to stabilize with gold, but we in the United States would very much rather have gold. I hope our public men are helping in every way they can to get them on the gold basis. Our public men are not talking about that with the idea that as a result we are going to have a decline in gold or a decline in prices in our own country. It is partly because they think it is one of the best things that could happen to America, to put the finances of Europe on a sound basis, and partly through altruism, and because it is one of the best things that could happen to Europe. A great rise in prices could be worse than a great decline in prices. Lots of things might be worse than that—smallpox, for instance, might be worse. I hope our people are not working for a decline in prices. I do not know whether they would want to rehabilitate Europe under any plan which would bring about a decline of prices in this country. If a decline in prices in this country was a sine quo non, they might say that the losses and evils resulting from a decline in prices were less than have Europe continue in its present disordered conditions, on its paper money basis.

[fol. 1195] Redirect:

I will try to define inflation as I have done in this little book here, and it will be more accurate. Definitions of terms are very difficult things. I can give an offhand definition of inflation, however. There is nothing more difficult in the world that I know of than trying to define with precision a term of that class.

"Although the term inflation in current discussions is used in a variety of meanings, there is one idea common to most uses of the word, namely,"—and this is my definition—"the idea of a supply of circulating media in excess of trade needs. In a previous article by the writer upon whose detailed statistics, revised and expanded to date, many of the conclusions in the present chapter are based,

inflation was described as occurring 'when at a given price level a country's circulating media—money and deposit currency—increases relatively to trade needs.' "

This is the definition—"When at a given price level, a country's circulating media—money and deposit currency—increases relatively to trade needs." In that case the price level rises. When it decreases relatively to trade needs, the price level falls, and that is deflation. Those are my definitions. I do not care if a change comes in money. If you had a given volume of money, a given physical volume of gold money and you have not changed the volume of [fol. 1196] money, but increase relatively the demand, prices would have risen and you would have had inflation. If you keep them constant, then you have stability. If you increase the supply of money and other circulating media relative to the demand, you have rising prices and that is inflation. Increase the demand relative to the supply and you have falling prices, and then you have deflation.

Defendants rested.

[fol. 1197] Brooklyn, New York, May 15, 1924.

Andrew J. Gonnoud, called on behalf of plaintiff in rebuttal, testified:

Direct:

When I was on the stand last time the company was in the process of issuing some capital stock. I have a statement made up showing the outstanding securities as of May 8th, 1924, (indicating). There has been no change in the bonds since May 8th, or since I was on the stand. There has been no change in the bonds in the last couple of years. The actual outstanding bonds in the hands of the public are $4,961,000, under both mortgages. That is, both mortgages are limited to $5,000,000. I have on my list here "First Mortgage Bonds and First Refunding Mortgage Bonds"—there are two mortgages. The reason that there is not an exact $5,000,000 outstanding is that we reacquired $39,000. That was under an order of the Commission, in case No. 1274. Those bonds are in the safe deposit vault of the company. We do not pay interest on them.

On preferred stock we have $500,000 of Series A 8 per cent. preferred stock outstanding. On common stock we have non par value stock 50,000 shares. I have not told about the 7 per cent. because I thought I would talk about the common stock and get that clear, because the 7 per cent. takes in two or three items. We have $500,000 of 8 per cent. preferred stock outstanding. We have common stock 50,000 shares at a stated value of $2,000,000; and we [fol. 1198] have Series B-7 per cent. preferred stock, and actually outstanding $413,300, and subscriptions to preferred stock as follows: 166 shares paid in full $166,601; 2725 shares part paid, $95,169.50. Amount due in subscriptions, $177,330.50. Total amount, subscribed for but not yet issued, $289,100. The subscribers hold warrant that are exchangeable for the stock certificates on or after the next dividend paying date. This 7 per cent. stock was an issue made this year. Since the 1st of January, 1924, we have offered this for subscription. We did not offer a million dollars of it. We simply opened the books for subscription and intended not to exceed $700,000. A little over $700,000 subscriptions we have accepted, and $413,300 of that has been fully paid for and either issued or stock certificates ready for issuance. If they are not out, the holders have warrants that are exchangeable at the present day for that. The 166 shares are paid in full. I put that in a little different category because they could not get their stock if they wanted it on account of the dividend dates. On the 2,725 shares of stock, $95,769.50 has been paid, and $177,330.50 is yet to be paid. That is 7 per cent. cumulative preferred and the 8 per cent. is cumulative preferred. On subscriptions to the 7 per cent. stock we pay at the rate of 6 per cent. on all installment payments, and at the rate of 7 per cent. on all paid in full from the date they are paid in full. They either become entitled to the dividend or the [fol. 1199] stock—preferred stock or an equivalent in interest. I am familiar with the steps taken in the issuance of this stock. They were taken mostly by our consumers and employees in our district. I am talking about the seven per cent. now. It was not offered through any banking house. It was offered direct by the company, and it was practically all taken with a week. I did not have any long pull on it at all.

8 per cent. preferred was issued during last year and the year before. I think we started about 1921 on that—in the fall of 1921. That dragged out over a number of years. We had difficulty in marketing that. Very little of it was issued at the start. If I remember correctly, there was $58,900 of it issued the first year. The original common stock was all issued before my connection with the company. That is, the $100 par value. I had some connection with the issuance of the bonds. Since I have been with the company, there have been actually issued $1,822,000 at 6½'s. All these 6½'s were issued. They were sold in January and February of 1921, I think. They bore 6½ per cent. payable semi-annually; at less than par we sold them. They were issued in January, 1922, and they were sold at 93½ to the banking house, Blair & Company. I am writing off that discount over the life of the bonds. That money cost us over 7 per cent., and our preferred stock money cost us 8 [fol. 1200] per cent. And, of course, the 7 per cent. cost us 7 per cent. We had financing expense with the 8 per cent. stock. That is, we had a commission to pay on the 8 per cent., and we paid to our own employees a commission on the 7 per cent., and advertising costs and the usual costs that go with the sale of stock. This 7 per cent. will all be paid in by December, 1924, the time set. We anticipate that. That is, if all the payments are made. We gave them about ten months' time on it. That is the way we sold it: 10 per cent. down and 10 per cent. a month. Some did not take advantage of the time and paid up more promptly and some paid in full the actual cash right away. It was taken in small blocks. The average holding, the average acquisition, I should say was around six shares. I would not be sure of that figure, but that is my recollection. The general public acquired it. It was mostly taken by our consumers. As I recall, about two-thirds of the stock was taken by the consumers and our employees and about one-third was taken by the general public,—I mean the general public outside of our territory—outside of our district. We got so many subscriptions in we accepted them from everyone. We did not limit it just to our consumers. The 8 per cent. is held by the general public, and some of our consumers hold some of the 8 per cent. stock, and some of our employees. I could not say how much is held by

our consumers and employees. It is less than half, however. What I have given here is all shown on the books of [fol. 1201] the company. I have brought them all together here on one sheet for convenience.

Mr. Moran: I offer that in evidence.

Mr. Hyatt: I have no objection, with this exception: I think it is perfectly germane for the plaintiff to show what are the fixed charges for its funded indebtedness; that is, the outstanding Bond issue; but, as a matter of form, I desire to object to the remaining part of the proposed exhibit on the ground that the question of the outstanding securities and stock, whether preferred or common, is a question that is not germane to this inquiry; that such facts are incompetent, irrelevant and immaterial.

The Master: Objection overruled.

Mr. Hyatt: Exception.

(Marked Plaintiff's Exhibit No. 83.)

The books in evidence, contain the figures from which an accountant can make up a balance sheet. I have made up a balance sheet as of December 31, 1922 and December 31, 1923. It was correctly taken from the books of the company. There was only one exception, and that is in the case of the item shown as Reserve for Money Received in Excess of $1.00 rate. This item was taken from the books of the company and amounts to $269,400 but it was subtracted from the surplus as shown on the books of the company and the net surplus resulting is shown on this sheet as $549,074.43. This sheet, shows the amount of consumers' de- [fol. 1202] posits, $423,029. It also shows a reserve for contingencies. We are setting up the reserve for contingencies from surplus account. It was taken from the amount of surplus for the period at the rate of 2 cents per thousand cubic feet of gas sold. It does not enter into our operating expenses. We appropriated a part of the surplus. We appropriated part of the amount that would go to surplus and put it into the contingencies fund. This contingencies fund has been going since January 1, 1917 at the same rate. Some years we did not have any credit to surplus at all. We had a deficit. We continued putting it here. That would be charged against surplus of prior years.

Reserve for plant withdrawn means plant to be withdrawn. And that has been created by a charge of $300,000 in later years at the rate of one cent a thousand. We continued putting something into that reserve since 1916. It naturally affects the surplus and we would charge it against the surplus. There were years, the early part of 1920 and 1919, where our revenue did not meet our operating expenses. We had a deficit. During some of those years there were deficits from operation. But we still kept building up this reserve, at the expense of the previously accumulated surplus. It appears as being charged against the operating expenses; but if there is a deficit on operations then it affects the surplus. We charge against that reserve the [fol. 1203] original costs of the plant withdrawn from service less any salvage value—the net amount after salvage value, or any money that we get back from the cost of the appliance retired. If we retire a piece of property and sell it for a little cash, the amount of cash we get is charged against Cash. The balance of it is charged against this. I do not know what retirements we may have to make next year and the following year or ten years from now. I take the major part in determining whether a piece of work is a retirement or is a repair, and could sometimes put a thing into this which we put into repairs and vice versa. We could charge everything into repairs. It would so vary our operating costs that we would be all at sea in arriving at any comparative results. We would not know whether we were going to make money or lose money. In other words we might have one year that might come around; that is, we would have a retirement which would be larger than in another year. That is the reason for evening that up that we carry this reserve.

Fixed capital is the term used in the uniform system of accounts. It includes land at original cost. It also includes all structures. The amount standing in that account now is what has been paid by the plaintiff for fixed capital. That is what is purports to do. I cannot say if that is the [fol. 1204] actual amount paid out, myself because I have not any personal knowledge of that. That is what the books show as having been paid out for capital. In the time I have been with the company, that has increased, and as it has increased, every increase, as near as I could find

in it has been for a dollar expended. I might say in connection with that that the Public Service Commission engineers examine the books from time to time and in the last case—I believe we have an exhibit in this case here that includes their finding in one of the cases, in which they state that they find that this is the fixed capital of the company. I do not know the exact working of it. I have got the usual account of unamortised debt discount and *and* expense.

Mr. Moran: I will offer the balance sheet in evidence.

(Marked Plaintiff's Exhibit No. 83.)

In accountancy, unamortized debt discount and expense is not an actual asset. It is not an asset at all. It is a suspense account. And we have to set it up there because we sell securities at less than par. It is to offset on the liabilities side the full liability. The bonds go in on the liabilities side as par. We subtract cash from the total amount, and the balance we set up on the assets side. It does not represent actual property in the possession of the company. Materials and supplies are at actual cost of the materials which we have on hand. Cash and special deposits is what we have in our banks, just what they state. [fol. 1205] They are gas accounts of the consumers and other accounts receivable, and any notes. We have a few notes. They are very few, and they are a very small amount. Most of our accounts receivable are from consumers of gas. The notes are short-term notes. That is characterized so under the Public Service Commission's laws. The consumers' deposits go into the general funds of the company. It goes into the general cash and it is used for all purposes. It is not set aside at all. We use it in that fixed capital, or in our materials and supplies. We could—or rather if we could tag dollars, why, we would find it strewn throughout the whole operations of the company. We pay interest on those deposits, at the rate of six per cent per annum. We do not make an effort to send a fellow a check every year, but we charge the 6 per cent on all the outstanding currently and set up that amount. We do not pay him any interest until he surrenders the deposits. Each man has a small amount. Ten dollars is our minimum at the present time. Many will have just five dollars as a deposit. I heard that testimony of a gentleman

on the stand here who said that we could run a gas business without having any uncollectible bills by reason of the fact, that we had a right to take his deposit. I have had an intimate contact with the gas business and the collection end of it for the last five or six years. I do not think any [fol. 1206] gas company can possibly get along without uncollectible items, regardless of how much deposit it exacts from its consumers. We do take deposits at the present time; we are taking them from everybody. This amount I have got here (indicating) does not represent a deposit from every one of your fifty thousand consumers. Some fellows have established a line of credit. We loose from both the fellow who has a deposit and the fellow who has not a deposit. I do not know whether we lose as much from the men who establish a credit with us as we do from the others. You have to gain admittance, in the first place, to read the meters. Some of our meters are in the household of the consumers, commonly known as bathroom sets, or room sets, and we find difficulty in reaching the meters, and where a consumer wishes to do so they can wilfully keep the meter reader out for several months until the amount of gas consumed is greater than the deposit, the deposit being an amount to cover two months' consumption. That is all we are permitted to take under the law and then they move out—move away, and we cannot possibly collect. That is, if we could collect, it would cost us a good deal more than the deposit itself, and that cost appears in operating expense. But we also have losses where we cannot possibly get a deposit. They move out into the Brooklyn Union territory, and we go on serving gas there under their name, not knowing that they have moved, and [fol. 1207] the new people moving into the house find the gas on. They do not communicate with the gas company. What is the use? The gas is on. They do not have to bother with it. So they consume gas there without a deposit without a name, without anything. We go on serving them there and then they decide they are moving. They leave an outstanding balance of six or eight dollars or ten dollars, whatever the case may be, and they move out. They are people that have only stayed a short time. We do not get wise to them after the first couple of bills are not paid because they may pay the bills in the other person's

name. They receive the bill in the other person's name. *They receive the bill in the other person's name.* They pay the bills to the collector. He appears at the door and says he is the gas man and they look at the name and they pay the amount of money, and they go on paying that. Now, they have decided to move; so they say, "Well, as long as we are going to move, there is no use of paying the gas company." So they put the collector off, if they can, the first month and get as long a period as they can without being forced to pay, and then we go down there, and finally threaten to discontinue the service if they do not pay up. Then they say, "Go ahead and discontinue it." In some cases we go ahead and discontinue the service, and then they move out. Then we try to collect, and it is a different consumer entirely, and we cannot collect on the other consumer.

And then we have the case of N. G. checks. A man will [fol. 1208] pay his gas bill with a check which, when presented at the bank, there are no funds available. We accept that in good faith and continue to give him service. He sends us an N. G. check and then moves out the next month. By the time we get it back and try to make a collection, he skips out. Our uncollectibles last year, as shown by the exhibit here, amount to something in the neighborhood of half a cent a thousand. In my opinion that amount is very, very, reasonable. In fact, it is low for gas companies who have no discounts in connection with the collection of bills. We make every attempt possible to collect all the revenues possible. We have a very thorough system of follow-up accounts; but we have 60,000 accounts with an average bill of less than five dollars, and it is readily seen that we cannot spend too much money in the collection of small bills. There comes a point where the expense of collection of small bills,—is greatly in excess of the amount to be collected.

We have about 60,000 consumers, and an average bill of less than five dollars. And that 60,000 consumers will mean 60,000 bills, which every twelve months will be 720,000 bills. We have to collect our revenue in that way, in those small amounts.

We had in exhibit as to the actual cost of making gas in 1923, just as we made it. Then we put in a further exhibit

adjusting that to the cost of 650 B. T. U. gas. Mr. Little put in an exhibit as to the probable cost of making gas for, say twelve months beginning January 1st, 1924. I have [fol. 1209] prepared an exhibit as to the cost of making the same amount of gas which we made in 1923 at the prices we are paying and will be obliged to pay in 1924. This is it (witness being handed paper) entitled "Cost of Making Gas Sold in 1923, Adjusted to Present Day Prices." I have shown the cost of gas sold as per Plaintiff's Exhibit No. 49, amount $1,640,279.49, and the cost per M. C. F. sold, 91.38 cents. The second item shows the gas oil taken from Exhibit 49, 5,604,166 gallons at $.052089, amount $291,919.01. Under this item I show the gas oil at present contract price, plus the handling cost 5,604,000. The oil last year at the prices we had to pay in 1923 cost us $291,919.01, and at present prices the same amount of oil would cost us $266,464.08, or a difference of—a net decrease in the cost of gas oil of $25,454.93. That is a little over a cent a thousand on gas sales. It amounts to 1¼ cents per thousand. That is where we can see expenses for the present twelve months will be less than they were in the past twelve months. That is where we can get a saving. Last year our generator fuel cost us, according to the Exhibit No. 49, $301,814.14, and this year it will cost us under our present contract price,—provided, of course, there be no strikes or anything else coming up—$298,970.57, giving us a saving of $2,843.57. There will be about .15 of a cent. A total reduction in the cost of gas oil and generator fuel of $28,298.50. Computed [fol. 1210] on the number of cubic feet of gas sold it would be 1.58 cents per M. C. F. sold, meaning thousand cubic feet. That would reduce the cost of gas sold to $1,611,980.99, or 89.80 cents per thousand cubic feet sold. These are the only two reductions in prices and materials. We are not paying any less for labor and services than we did in the last twelve months. In fact, we are paying a little more now than we have been paying for our labor. I am not able to point out any other instances where there will be any reduction in the cost either for material or labor. I have not prepared an exhibit showing how much we will spend this year for works superintendence and commercial expense in the different accounts that we keep. I would not attempt to do that. That is if it were put up to me to

find out what the cost would be from now until the end of this year I would simply take the items where there would be a change or we could see a possible change in the cost of making gas. There could be no change in superintendence and those other items. They go very well along with the increase in sales of gas or decrease, whichever the case may be. Our expenses, as stated in those accounts, would increase or decrease proportionately with the increase in the sale of gas, so that the unit cost remains the same. I would not look for any fluctuation in the amount [fol. 1211] of repairs. Repairs remain pretty constant—quite constant. They vary from year to year, but where you have an extraordinary repair one year on some apparatus, you usually have a correspondingly extraordinary repair in some other apparatus in the current year which offsets that. There is an increased amount of the work being done by machinery now over what was done formerly, by hand. We are getting more machinery in to do the work of men year by year. We have added a considerable amount of labor-saving devices in the last few years to replace manual labor. That will have a tendency to increase repair expenses, but it will have the same tendency to decrease the labor. In 1923 we had it in and it reduced labor, so one offsets the other. So that is one of the reasons why I would not attempt to make any changes in the repairs. Repair items run along pretty well the same. In Mr. Little's exhibit there he shows for three years the repair items for 1921, 1922 and 1923 and then adds the cents per thousand and divides by three; but if we take the other way around and add all the cubic feet that were sold for the three years, 1921, 1922 and 1923, and divide it into the total cost of those repairs, we get an item that is larger than the item that he arrives at for his prognostication, and that item we find is fairly constant. That is the weighted average rather than an arithmetical average. The price of repair material [fol. 1212] is higher now than it was in 1916, double what it was then. And the cost of labor employed in making repairs has greatly increased since that time. The 1923 prices of labor and material used in repairs are about the same as they are now. In my judgment the cost of repairs would be substantially the same in 1924 as they were in 1923.

Mr. Moran: I will offer in evidence this exhibit which the witness has produced here. It is a convenient computation of the differences in cost due to the lower prices of materials.

Mr. Hyatt: I would like to ask one question.

Does this represent your opinion, Mr. Gonnoud, this proposed exhibit which you now present? Does that represent your opinion?

The Witness: The exhibit, as I see it, represents the facts—no opinion on here at all. I have given some opinion in my testimony in connection with this exhibit. This represents the facts as they are today. This is adjusted to present-day prices. We know what the price of gas-oil is. We know what the price of generator fuel is, and I have set it forth in this exhibit. My opinion is that this is the only adjustment that is necessary to show the cost of making gas at the present time. When I say "today" I mean the current time. That would be this year, from January 1st [fol. 1213] on. These contracts are from January 1st on. We are at the present time getting material under these contracts. It does not represent any period during 1924. It represents the present-day prices that we are paying for these commodities, and what prices we will have to pay from now until those contracts expire, and those prices we will have to pay from now until the close of 1924. To the extent of what we will have to pay up to the end of 1924, based on those contracts, represents my opinion. I have taken the cost of the gas from our exhibit of 1923. I have assumed there will be no changes in the cost of making gas excepting in the two commodities—water gas oil and generator fuel, and I have taken the amount we paid in 1923 for those commodities and I have subtracted from that the cost of those commodities based on the contract for 1924.

(Paper marked Plaintiff's Exhibit No. 84.)

When I was on the stand before I put in an exhibit showing the actual cost for the twelve months ending December 31, 1924. I also said that the accounting period for gas companies was a calendar year. I do not recall whether I did or not say anything about a wrong impression possibly being obtained from taking a shorter period than a year, but I will say that any period less than a year would be an

unreliable period for a gas compaay. The gas business is [fol. 1214] a seasonable business. It has a lower opportunity in the summer months, with some companies. With our company we have a peak during the winter period. Our heaviest months are the first three months of the year, January, February and March, I should say. That is the heaviest period. That might be switched to October, November and December by having an early winter, but they are rarely any such thing as that. Our experience shows it is January, February and March. I have been able to take from the company's books a more recent twelve months than that ending December 31, 1923. I have prepared one on the twelve months ended March 31st, 1924, gotten up in the same way as the one for the twelve months ended December 31, 1923. This I have here shows the cost of the twelve months. This is influenced by some of our old oil contracts, reflected in the prices shown on page 1 of this exhibit opposite "Gas oils," the price there being slightly in excess of 5 cents. For the twelve months of 1924 it would be according to the previous exhibit,—4.75. It should be above 4¾ cents. There is an unaccounted for of 8.40. That is 8.99 in the old exhibit; a slightly better showing than on the old one, and it is made up precisely in the same way, except that it takes this twelve months—it shows the cost of making gas in the most recent twelve months that we could take from our books as 91.72 cents per thousand feet of gas sold. That includes Federal income tax. Federal income tax in this case is 3.76 cents per thousand [fol. 1215] cubic feet sold. I did not get one ending April 30th; we had not quite closed our books on April 30th. We have practically all the figures now and we are compiling them and we could not get up this statement at the present time. I am giving rebuttal of testimony and this is the best I have got to offer to meet Mr. Little's twelve months. I take the last actual twelve months I have got.

Mr. Moran: I will offer it in evidence.

Their books are not in evidence for 1924. I brought them here this morning for that reason. I thought maybe this exhibit would not be accepted unless we had the books in evidence.

(Books produced by witness.)

The Master: We will receive this subject to the introduction of the books.

(Paper marked Plaintiff's Exhibit No. 85.)

The books from which I took this exhibit are General Ledger No. 7, its sub-books and journal. They are the same set of books that were used for 1923 in describing my testimony at the time that those books were introduced in evidence—the identical books. These are the current books for 1924. We carry all our books on a yearly basis and we close out our books at the close of the year and open a new set of books for the next year—for each calendar year, and the books are identical with the books kept for the year 1923.

The Master: The books for 1924 will be deemed in evi- [fol. 1216] dence and considered as marked Plaintiff's Exhibit No. 86. (Books considered as marked Plaintiff's Exhibit No. 86.)

Gas sales to consumers for the twelve months ended March 31, 1924 were 1,806,796, 1,000 cubic feet of gas. Sales to consumers for the year ended December 31, 1923, were 1,794,969,870 cubic feet. I have not the percentage of increase, because I had not arrived at any percentage of increase. The periods are unlike. Of course, they are each twelve months period. There are two twelve months periods and each one of them takes in every month of the year, and so, of course, each of them takes in part of the same cubic feet—that is, for nine months the cubic feet that is shown on here is shown on here. We have got one showing the difference in sales for the four months ended April 30, 1924, and the four months ended April 30, 1923. I have got that right before me. Cubic feet of gas sold for the four months ended April 30, 1923 were 660,042,704 cubic feet. Gas sold for the four months ended April 30, 1924, was 678,018,029 cubic feet, the difference being an increase of 17,975,325 cubic feet, or 2.72 per cent, increase over the same period last year, and there were a larger number of meters on in the accrued periods. The consumers on the district as of April 30, 1923, were 50,200 and the consumers on the district as of April 30, 1924 were 58,653, an increase of 8,453 consumers, or 16.84

[fol. 1217] per cent. increase in the number of consumers on the district. With respect to the number of consumers, I have stated the number on April 30th each time. There is an increase in meters during the four months, but I have taken the number of meters at the end of each four month period, and there was an increase in that number of 16.84 per cent. The increase in the sales of gas in the same four months was 2.72 per cent. It does not arrest an experienced man's attention at all. You wouldn't expect 16.84 per cent. increase in the sales—the increase in sales does not vary proportionately with the number of consumers, because there are so many other factors that enter into it that the increase in the number of consumers is only one of the factors. The state of the weather has the most to do with it, and also the condition of other fuel markets. Last year there was an abnormal increase in the gas consumption due to the fact that the year previous, that is, in 1922, we had coal strike trouble and people could not get the coal during the winter and they burned up whatever coal they could; so coming in the first part of last year, in 1923, they had a very small supply of coal, so they used gas for heating the houses during that period; closed down their furnaces. This year they stocked up with coal and did not use very much of it during the last of 1923, and coming into 1924 they had their coal and they kept their furnaces going. I do not think anyone is able to estimate the sales for 1924, [fol. 1218] but we have before us four months showing 2.72 increase the four months period which is usually the best period—in the experience of the company the best period of the year. It does not show the larger increase, but the largest proportion of gas sold for the year is sold during those first four months—the three or four months. In other words, we sold more in those four months than we would in any other four months of the year. This is the fact that in the first four months of the year we sell more than one-third of all the gas we sell in a year. If you multiply this figure here by three, you would have a figure that would be in excess of the amount of gas that would be sold during a year. If I were to attempt to estimate the amount of gas sold for the year, I would multiply this figure here for the four months ended April 30, 1924 by three, and then make an allowance for the greater amount sold

during the first four months. I would probably divide by ten to arrive at my figure—divide by ten to find out what my increase would be. That is, I would multiply this by three, which would give me the twelve months period—I would divide by 110, rather. That would give me the twelve months period. In fact, I would take off 12 per cent practically. After multiplying by three, I would take off 12 per cent. Multiplying that figure for April, 1924, by three, (witness makes calculation), my figure shows 2,034,054,087 cubic feet. The figure given by Mr. Little on page 5 of his exhibit 48 is 2,067,263,000, which is larger than what I [fol. 1219] get by multiplying by three here. That much can reasonably be expected by Mr. Little. I would say that that was an over-estimation. I would increase that 2.72 per cent. as I have found it for the first four months in anticipation of change in weather conditions. I do not know just what we are going to have, but I would say that if we only have 2.72 increase for the year, I will be surprised and disappointed. I think we are going to have more than that. I think we are going to have more than 2.72 per cent., due to all the facts. I would not rely ust upon the increase in the number of consumers.

Mr. Moran: I offer in evidence this statement that the witness has used here showing the consumers on the district April 30, 1923 and April 30, 1924 and sales for the four months ending, respectively, April 30, 1923, and April 30, 1924.

(Marked Plaintiff's Exhibit No. 87).

Multiplying the amount of cubic feet of gas sold for the four months ended April 30, 1923 as shown on Plaintiff's Exhibit No. 87, I arrive at a figure of 1,980,128,112, and the actual amount sold was 1,794,969,870. It did not amount to three times the first four months. It would be about ten per cent less than that, but I have not figured that out. I am just dividing by eleven here, and it brings it out almost exactly. If I applied the same method to compute our possible sales for 1923, I would multiply this first four months by three and take off substantially ten per cent. [fol. 1219½] I have been able to give the sales for four months and the number of consumers for four months ended April 30, 1924, but I cannot give the operating expenses

because we have not figured these computations. We have all the facts with which to do it, but we have not finished our computations. These amounts of sales are in these books right now, we have gotten that far. We haven't gotten through so that we could close our books for the month. We expect to close them in the next day or two.

[fol. 1220] Brooklyn, New York, May 15, 1924.

Robert R. Bogie, called on behalf of plaintiff in rebuttal, testified:

Direct:

I have heard Mr. Little's testimony, have examined his exhibits and have given particular attention to the matter of residual, or the amount of gas oil tar that may be recovered. In his figuring the probable cost of making gas for the twelve months beginning January 1st, 1924, Mr. Little allowed for 16 per cent. of residual, I believe. As to how much oil he allows per thousand cubic feet of gas made, there are the same figures that we had in 1923; 2.84, I think it was, but I am not sure of the exact figures. It was 2.83 in 1924, and the figure for the first four months of 1924, on that exhibit which was put in this morning, is 2.84. I am running the plant at the present time with my able assistants, and we are having a recovery of residual. This Exhibit here that Mr. Gonnoud put in this morning shows the efficiency we are getting out of our gas oil by using 2.84 gallons per thousand cubic feet. We are getting residual at the present time,—very close to 8 per cent. We are pretty close to the absolute figure, I think, at the present time. It is determined over periods. We recently cleaned out certain tar-settling wells, tanks and so forth; at least, we did that in 1923, and installed more accurate methods of checking it up and determining it, and within the last month we cleaned out some of our storage wells, [fol. 1221] put gauges, and so forth, on them and installed apparatus for dehydrating the tar, and so forth, and our actual method of checking it up at the present time is that we take eight per cent. of our gas oil used to determine the amount produced, and then we collect all the tar through settling wells, and so forth, and pump it into our—well,

we have several small storage tanks, and we also store a certain amount of it in relief holders, and by checking those storage points at frequent intervals, we can tell very closely the total amount of tar that we have on hand. We are burning it at the same time. We have a very accurate check on the amount we burn. We have two 6,000-gallon tanks and they are located so that they feed by gravity to the burners, and when one tank gets empty, we have gauges or scales on the tanks so that we can tell the exact number of feet and inches and fractions of an inch of tar in the tank, and knowing the diameter of the tanks, we can compute the number of gallons. For instance, we pump one tank full at a certain number of feet, say there is four feet in it, and we burn the tar from that tank and we take a reading from that same tank the next morning, and if it has got two feet in it, then we know that we used the corresponding number of gallons of tar as fuel. We never operate the burners direct from the tanks at the same time we are pumping in. In other words, we are filling one tank when we are using out of the other. At the present time we are burning about as much as we are recovering. [fol. 1222] We commenced that sometime during the latter part of 1923. We have to allow a certain amount to accumulate in order to let it settle off before we can use it, let the water settle out of it, and we have to use dehydrating apparatus to get the water out of it. I doubt if we have equipment down there to use as much as 16 per cent. of the residual. I think we would have to convert one or two boilers in order to do that. In other words, we have not tar burning boilers to handle, in the course of a year, 16 per cent. recovery in residuals. We would have to convert some boilers. We have not sold any tar, barring a barrel or so that somebody wanted to use for paint, since I have been with the company. If we had been producing it at the rate of 16 per cent. and allowing the percentage that we have allowed the last few years, we would have it flowing all over the yard. We could not get or make 1000 cubic feet of gas with 2.83 gallons of gas oil and have a recovery of 16 per cent. I think approximately a maximum of ten per cent. is the most we could get out and have that efficiency, of 2.83. We are actually making 8 per cent. now. Of course, this would vary with the quality of gas oil. I

don't think the gas we are getting now is quite as good as it was last year, but it is a good grade of gas oil. If it becomes a poorer grade of gas oil, it will require more than 2.83 gallons per thousand cubic feet; then of course your residual tar is going to increase. The poorer the grade of oil, the larger the percentage of recovery. I heard what [fol. 1223] Mr. Little said on the stand about getting 16 per cent. out of it and still making a gas with 2.83 gallons of oil. I have given it consideration. I don't know of any other plant in our vicinity, with the exception of possibly the Brooklyn Borough Gas Company, that are operating on our B. t. u. standard, and using the amount of oil that we are using. I understand that one of the plants of the Brooklyn Union Gas Company are on a higher B. t. u. standard than we are and are down around 12 per cent. I should say they were approaching efficient operation. The higher the B. t. u. standard, the greater the percentage of tar residual. If we do not recover but 8 per cent. as against 16 per cent. computed here, it will require more solid boiler fuel than the amount he stated.

Referring to plaintiff's Exhibit No. 85, for the twelve months ended March, 1924,—a part of that will run into a slightly lower recovery than 8 per cent. In other words, during part of the period you will produce lower than 8 per cent. There are various conditions that cause that to vary. The quality of the oil and the condition of the machines. At certain periods of the year we are on very light loads, and the machines are generally—in fact, we make a practice of making our major repairs in the summertime and keeping up our machines running in the winter time. We make the necessary repairs, such as re-checkering and so forth. I think if we could be able to recover 16 per cent. and still make our gas with 2.83 gallons of gas oil, we would be beating the game from both ends. If Mr. Little is able to [fol. 1224] tell us how to do it, I would be glad to hear from him. I have already extended an invitation to him to visit us from time to time. I have not seen Mr. Little at the plant since I last extended the invitation to him, but I would be very glad to go over the situation with him. As chief engineer of the company I have more or less to do with supervising repairs, and so forth, and directing particularly that the repairs be made. I know what repairs

were made in 1923. I think possibly the same repairs, identical repairs that were made in 1923—that is, outside of furnaces, boilers and accessories and water-gas sets and operating units—that part of the plant always has practically a constant amount of repairs on. There were certain items, such as repairs to certain parts of the structures of the plant, that came up last year. Just a short time ago we had to go over the roof of one of the buildings, the roof of the boiler house; we went over half of the roof of the boiler house. That is a repair that does not crop up every month or every year or every five years. There are always items of that sort coming up and, if it is not one item, it is something else. That repair to the roof was in 1924, that I spoke of. It has just recently been completed. We do not anticipate any reduction in labor costs in these twelve months, over 1923; actually the labor costs have been going up slightly.

[fol. 1225] GOXNOUD

Cross:

I have read the questions and answers as given and answered by me at my office and as written out on the sheets here present, and I have no corrections to make.

On plaintiff's exhibit 81 where I show the cost of property as per the books of plaintiff and its predecessor, and the present value of land and working capital, under the heading of present value of the land—the works site is $1,141,744. That includes the land leased to the Morse Dock Co. If I deducted the value of the land leased to the Morse Dock Co., as testified to by Mr. David Porter, the amount representing the works site used for gas purposes would be $811,650. Referring to the second sheet of Exhibit 81, where I similarly have set out the value of the works site, I have there also included the land leased to the Morse Dock Co., and the amount representing the value of the land as testified to by Mr. Porter, used for gas making purposes, would, therefore, be the same amount, $811,650. Referring to this same exhibit, on sheet 2 thereof, where I have set down as the amount of working capital $866,372.47. There is no deduction made on that working capital of the sum now held by us as consumers' deposits.

The sum that I testified to as the amount of consumers' deposits on hand was, as of December 31, 1923, $423,020. As to Exhibit 85, it is a fact that I have charged production with water-gas tar at a higher rate than I credited [fol. 1226] production with the water-gas tar recovered as a residual. I did this because we have used up practically all the water-gas manufactured during the period covered by this exhibit, and have used in excess thereof water-gas tar produced previously from water-gas oil purchased at a higher rate. This additional water-gas tar used takes the place of other boiler fuel necessary to produce steam. The price shown on the exhibit for water-gas oil is not higher than the contract prices. We were operating during that period under two different contracts, and this is the average of both contracts plus a handling charge. All of the oil has been delivered under the previous contract. We had no oil in stock as of April 1st, 1924, bought under the previous contract. We could not have any. We charge up our oil on the basis of contract until the amount under the contract is exhausted. Inasmuch as we charge for gas oil .0506 plus per gallon, the reason why we credit our water gas residual during the same period at .0499 plus per gallon,—I believe the bulk of the difference is in the handling charge. Our Exhibit 85 does not cover a calendar year. It covers a twelve months' period as shown on the top of the exhibit. On my Exhibit 85 I have not shown any credit for the miscellaneous revenues. I do not show any credit for miscellaneous revenues on the statements of operating accounts. In figuring Federal income tax, I assumed $1.30 per thousand would be charged for the gas. In any of the items shown on Exhibit 85, I have not included any expenses in connection with this suit or prior [fol. 1227] suits. All of that expense is now carried in the suspense account. I have shown on page 2 of Exhibit 85 a retirement expense based upon 3¢ per M cu. ft. of gas sold. I cannot determine any actual retirement cost within the 12-month period. We assume that 3¢ is enough to cover the actual retirement within that period. I cannot tell at this time how much was actually written off the books for property retired within that period. In figuring the price at which we credit our oil stocks and charge operating expenses for oil used, we use a percentage based on

the experience of the company. The cost of handling the oil is charged to suspense account, and we write out of that suspense account by percentage, ascertaining from time to time the percentage or amount left in the suspense account, to see if the amount of oil stock left on hand agrees with the percentage used.

Redirect:

At the present time, we are under a new system of accounts prescribed by the Public Service Commission. They took effect January 1st or June 1st, 1924 in the option of the company, and our company elected to have them take effect January 1st. The books for 1924 that have been put in evidence have been kept in accordance with that classification.

Mr. Moran: I would like to offer that classification in evidence.

Mr. Hyatt: No objection at all.

[fol. 1228] (Received in evidence and marked Plaintiff's Exhibit No. 88.)

The exhibits put in evidence do not make any separation of the sales of gas as between private consumers and the City of New York. We have sales to the City of New York. During the year 1923 we sold to the City of New York 24,298,270 cubic feet of gas at the rate of 75 cents per thousand cubic feet. That was both for street lighting and lighting of municipal buildings. The street lighting was 21,029,870 cubic feet, and lighting of municipal buildings, 3,268,400. Those sales that I have given have been included in the sales that I have shown in my other exhibit. The percentage of sales to the City of — the complete sales to consumers is 1.36 per cent. The books in evidence show the expenses of the plaintiff for restoring pavement over mains and services. I have taken off from the books that are in evidence the amount of that payment and I have a sheet here showing it.

Mr. Moran: I offer this in evidence. That is the last question.

Mr. Hyatt: Your Honor, I will have to stick to my principle now, and object to this on the ground it is irrelevant,

incompetent and immaterial. I have no objection to Mr. Moran making his record, but just to preserve my legal rights, as I see them, I want to remind Mr. Moran of that case in 210 N. Y., his own case.

[fol. 1229] This statement shows the cost to the company of paving over mains and services up to June 1st, 1923 at a total cost of $97,696.65, and then the cost between June 1st, 1923 and December 31st, 1923, making a total cost to date of $122,606.02. Most of it is for pavement over services. That goes back to the beginning of the plaintiff, the Kings County Lighting Company, 1904.

Mr. Moran: I offer that statement in evidence.
Mr. Hyatt: I renew my objection.
Mr. Moran: What is the objection? Will you state it?
Mr. Hyatt: Incompetent, irrelevant, immaterial.
The Master: It will be received.

(Received in evidence and marked Plaintiff's Exhibit No. 89.)

[fol. 1230] In United States District Court

[Title omitted]

List of Exhibits

Plaintiff's Exhibits

No.

1 Map of gas mains of plaintiff.
2 City official list of paved streets in Brooklyn.

For identification:

3 Sheet 1—Summary statements of cast iron mains.
2 " " " W. I. & W. S. mains.
3 " " " Paving over mains.
4 " " " Services.
5 " " " Lamp services.
6 " " " Paving over services.
4 Company's service pipe tickets.
5 Plaintiff's accumulation sheet of May 31, 1923 of mains, services and meters.

No.

6 Map showing paving over plaintiff's mains.
7 Summary statement of valve boxes and specials.
8 Certificate of incorporation Kings County Gas and Illuminating Co., the predecessor of plaintiff.
9 Certificate of merger of Kings County Gas and Illuminating Co. with plaintiff.
10 Original contract between Town of New Utrecht and plaintiff's predecessor, dated 1889.
11 Supplemental contract with Town of New Utrecht—1891.
[fol. 1231] 12 Contract of plaintiff with City of New York, 1907.
13 Deed—Burns to Kings County Gas and Illuminating Co.
14 Deed—Carver to Burns.
15 Deed—Bergen to Burns.
16 Grant—State to Carver.
17 Grant—State to Bergen.
18 Report of Col. Newton.
19 Map accompanying report of Col. Newton.
20 Map # 4391 of 54th opening proceeding.
21 Lease of part of plaintiff's property to Morse Dry Dock & Repair Co.
22 Supplemental Morse lease.
23 Blue print diagram of 55th Street property of plaintiff.
24 Deed—Bartlett to plaintiff's predecessor.
25 Deed—Mead to plaintiff.
26 Deed—Nies to plaintiff.
27 Deed—Johnson to plaintiff.
28 Blue print diagram of 66th Street property of plaintiff.
29 Daily report from Distribution Department, May 31, 1923, showing mains, services and meters as of the end of that day.
30 Summary statement of meters and connections of plaintiff.
31 Reproduction cost of meters, June 1, 1923.
32 Meter Life Summary, May, 1923.
33 Meter Life Summary, April, 1921.
34 Inventory and Appraisal, Structures and Appurtenances,—by Henry R. Burt.

No.

35 Burt's List of Repairs that might be made to structures.

36 John H. Duncan's statement of reproduction costs of mains, services and paving.

37 Sheet #22—Use District Map of City of N. Y., May 25, 1916.

38 Analysis of Langley Property Condemnation figures.

39 Col. Alten S. Miller's Inventory of plaintiff's apparatus, etc., and appraisal.

[fol. 1232] 40 Col. Miller's list of repairs which, if made, would restore apparatus to condition of being new.

41 Uniform System of Accounts (old issue) promulgated by Public Service Commission.

42 Summary of Plaintiff's operating expenses, 1923.

43 Plaintiff's General Ledger No. 6, 1923.

44 Plaintiff's Subsidiary Ledger—1923.

45 Plaintiff's Subsidiary Summary Ledger (Detail) 1923.

46 Plaintiff's Subsidiary Summary Ledger (General) 1923.

47 Plaintiff's Trial Balance Book, 1923.

48 Plaintiff's Journal, 1923.

49 Costs of Production and Distribution of Gas and quantities items for 1923.

50 Plaintiff's Manufacturing Report, 1923.

51 Plaintiff's General Ledgers Nos. 1 to 5, inclusive, Capital Accts.

52 Statement—Analysis of Repairs, 1923.

53 Statement—Net increase of meters on district, 1921-23.

54 Statement—average monthly working capital employed by plaintiff in 1923.

55 Statement—Fixed capital at Dec. 31, 1923.

56 Capital expenditures anticipated for 1924.

57 Order—P. S. C. case #2559—dated June 13, 1923, on 8% preferred capital stock.

58 Order—P. S. C. case #1442—dated July 26, 1923, on 7% preferred capital stock.

59 Order—P. S. C. case #108, dated Aug. 30, 1922, fixing standard at 537 B. T. U.

60 Order—P. S. C. case #108-A, dated Apr. 25, 1922, fixing standard at 525 B. T. U.'s.

61 Statement—Fixed capital additions between June 1 and December 31, 1923.

No.

62 Statement, Tar made and used, monthly, 1923.
63 Plaintiff's oil contract, dated Mar. 8, 1921.
64 Plaintiff's oil contract, dated Aug. 8, 1922.
[fol. 1233] 65 Plaintiff's oil contract, dated Sept. 5, 1923.
66 Plaintiff's coke contract, dated Mar. 27, 1923.
67 Plaintiff's coke contract, dated Apr. 8, 1922.
68 Page 5 of Col. Miller's cost data pamphlet.
69 Page 19 of Col. Miller's cost data pamphlet.
70 Yearly graph of commodity prices, 1860-1923.
71 Monthly graph of commodity prices, 1921-1924.
72 Monthly average of B. T. U. quality of gas furnished by plaintiff, Company Record and Public Service Commission Record.
73 Cost of gas making materials adjusted to making gas of a standard of 650 B. T. U.'s.
74 Table single burner appliance.
75 Table double burner apliance.
76 Increase in cost of 650 B. T. U. over 537 B. T. U. gas on basis of last coal and oil prices.
77 Statement of various heating-value standards adopted by State Commissions.
78 Calorific standards of various cities stated.
79 Plaintiff's coke contract, Mar. 19, 1924.
80 Dr. Hollander's chart of prices.
81 Statement (3 sheets)—costs from books of plaintiff and its predecessor—P. S. C. appraisal and subsequent additions—details of P. S. C. appraisal in its case #1273.
82 Statement of outstanding securities of plaintiff.
83 Plaintiff's comparative balance sheets, 1922-1923.
84 Statement, cost of making gas in 1923 on basis of 1924 costs of materials.
85 Cost of gas sold, Mar. 31, 1923,—Mar. 31, 1924.
86 Plaintiff's General Ledger No. 7, and 5 additional account books for 1924.
87 Number of consumers and sales of gas—4 mos. Jan.-Apr., 1923—Jan.-Apr., 1924, comparative statement.
88 Authorized copy of the Public Service Commission's Uniform system of accounts, dated Dec., 1923.
89 Tabulation of cost to plaintiff of paving over mains and services.

[fol. 1234] DEFENDANTS' EXHIBITS

No.

1 Page 5 of Col. Miller's cost data pamphlet.

For identification:

2 Page 9 of Col. Miller's cost data pamphlet.

For identification:

3 Col. Miller's graph of trend of material and labor prices, Jan. 1, 1913—Dec. 31, 1924.

4 Gas cock produced by Mr. Hyatt.

For identification:

5 Gas cock produced by Mr. Hyatt.

For identification:

6 Statement of tests of B. T. U.'s in 22 c. p. gas made by P. S. C. in 1917.

7 First nine pages of American Gas Association specifications for C. S. pipe and fittings.

8 Report of plaintiff to State Tax Commission for year ended Dec. 31, 1905.

9 Report of plaintiff to State Tax Commission for year ended Dec. 31, 1906.

10-18 Reports of Plaintiff to State Tax Commission for years 1907-16, inclusive.

19 Findings Nos. 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 19, 20, 21, 22, 23, 24, 25, 29, 30, 31, 32, 33, 34, 35, 36, 44 & 48 from Judge Greenbaum's decision in Kings County Lighting Company v. Newton.

20 Plaintiff's journal No. 1.

21 Net fixed capital additions, 1904 to 1910.

22 Sheet 1, Plaintiff's opening journal entry, July 1, 1904.
Sheet 2, Assets and liabilities of Kings County Gas and Illuminating Co., June 30, 1904.
Sheet 3, combination of sheets 1 and 2.

23 Statement of fixed capital additions, 1911.

24 " " " " " 1912.

25 " " " " " 1913.

26 " " " " " 1914.

27 " " " " " 1915.

No.

28 Statement of fixed capital additions, 1916.
29 " " " " " 1917.
30 " " " " " 1918.
31 " " " " " 1919.
[fols. 1235 & 1235½]
32 " " " " " 1920.
33 " " " " " 1921.
34 " " " " " 1922.
35 " " " " " 1923.
36 Statement of net additions to fixed capital (exclusive of land) Jan. 1, 1911—May 31, 1923.
37 Amount expended for repairs June 1, 1923—Mar. 31, 1924.
38 Statement of net current assets (working capital).
39 Bond offerings as advertised in Commercial & Financial Chronicle for year from Apr. 1st, 1923 (four sheets).
40 Public Utility preferred stock offerings from same source.
41 Public Utility bond sales on N. Y. Stock Exchange, week ending Apr. 14, 1924 (N. Y. Times Apr. 16) (No spread of discount).
42 Public Utility stock sales on N. Y. Stock Exchange (N. Y. Times Apr. 16, 1924).
43 Summary of reports of plaintiff to State Tax Department, 1905-1916.
44 Opinion and order of Public Service Commission in Mayhew v. plaintiff, Case No. 1273 (2 orders).
45 Estimate of reasonable value of investment of plaintiff.
46 Statement of fixed capital May 31, 1923 or estimated original cost.
47 Estimated working capital.
48 Estimate of reasonable operating costs, 1924.
49 Mr. Little's graph of costs 1921-24.
50 Bond prices—superseding #41.
51 Stock prices—superseding #42.
52 Chart—Jevons & Sauerbeck—course of English commodity prices 1820-1913.
53 Chart of gold production.

[fol. 1236] PLAINTIFF'S EXHIBIT No. 30

Kings County Lighting Company

Meters on District June 1, 1923

Meter sizes	Number of meters	Number of caps and swivels
3 Lt.	1,917	3,834
5 "	45,131	90,262
10 "	311	622
20 "	1,489	2,978
30 "	1,744	3,488
45 "	50	100
60 "	42	84
100 "	25	50
150 "	5	10
200 "	2	4
300 "	1	..
Total	50,717	101,432

Meters in Storeroom June 1, 1923

3 Lt.	1,319	2,638
5 "	1,077	2,154
10 "	13	26
20 "	12	24
30 "	75	150
45 "	6	12
60 "	3	6
100 "	3	6
150 "	2	4
200 "	1	2
300 "	..	..
Total	2,511	5,022

(Here follow Plaintiff's Exhibits Nos. 32 and 33, marked side folio pages 1237 and 1238)

[fol. 1237]

PLAINTIFF'

Meter Life Summa

	3	5	1
Purchased to Apr. 30, 1923	3447	45936	
Purchased during May "		500	
Total Purchased	3447	46436	
Condemned and Lost Prior	211	226	
May		2	
Net Available	3236	46208	
In Stock	1319	1077	
On District	1917	45131	
Locked Meters			
Active Meters			
Meter Dep. "Stock" sheets	1319	1077	
Meter Dep. "Stock" Report	1319	1077	

*High Badge.

PLAINTIFF'S EXHIBIT

Meter Life Summary, Month

	3	5	10	20
ed to Apr. 30, 1923	3447	45936	333	146
ed during May "	.....	500	.....	3
otal Purchased	3447	46436	333	150
ed and Lost Prior	211	226	9	
May	.....	2	.....	.....
et Available	3236	46208	324	150
	1319	1077	13	1
ict	1917	45131	311	148
Meters	.....	.....	.....	.....
leters	.....	.....	.....	.....
p. "Stock" sheets	1319	1077	13	1
p. "Stock" Report	1319	1077	13	1

Badge.

o. 32

of May, 1923

30	45	60	100	150	200	300	Totals
1789	57	49	29	7	3	1	53119
32							571
1821	57	49	29	7	3	1	*53690
2	1	4	1				460
							2
1819	56	45	28	7	3	1	53228
75	6	3	3	2	1		2511
1744	50	42	25	5	2	1	50717
75	6	3	3	2	1		2511
75	6	3	3	2	1		2511

[fol. 1238]

PLAINTIFF'S EXH

Meter Life Summary, M

	3	5	10	
Purchased to Mar. 31, 1921	3447	36336	313	
Purchased during April				
Total Purchased	3447	36336	313	
Condemned and Lost Prior April	200	189	7	
Net Available	3247	36147	306	
In Stock	361	423	10	
On District	2886	35724	296	
Locked Meters				
Active Meters				
Meter Dep. "Stock" sheets	361	423	10	
Meter Dep. "Stock" Report	361	423	10	

*High Badge. 4/30/31. 2009.

BIT No. 33

nth of April, 1921

20	30	45	60	100	150	200	300	Totals
828	864	57	39	27	7	3	1	41922
25	62	.....	.....	.....	.....	.....	.....	87
853	926	57	39	27	7	3	1	*42009
4	2	1	4	1	.....	.....	.....	408
.....	.....	.....	.....	.....	.....	.....	.....	.....
849	924	56	35	26	7	3	1	41601
30	21	3	2	1	2	1	.....	854
819	903	53	33	25	5	2	1	40747
.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....
30	21	3	2	1	2	1	.....	854
30	21	3	2	1	2	1	.....	854

[fol. 1239] In United States District Court

[Title omitted]

Stipulation re Plaintiff's Exhibit No. 34

It is hereby stipulated and agreed, that plaintiff's Exhibit No. 34, which is endorsed: "Valuation structures & appurtenances of the Kings County Lighting Company as of June 1, 1923," be not printed in full, but that pages 1 to 52, inclusive, being the inventory and prices in detail of the 55th Street station, be omitted from the printed record herein, and the balance of said exhibit printed.

It is further stipulated and agreed by the appellant, but only for the purpose of this appeal:

(a) That the structures and appurtenances set forth in Plaintiff's Exhibit 34 were in existence on June 1, 1923;

(b) That the structures and appurtenances set forth in Plaintiff's Exhibit 34 were used and useful in the business of the plaintiff on June 1, 1923;

(c) That the quantities, units, unit prices and total cost [fol. 1240] contained in Plaintiff's Exhibit 34 are a correct estimate of the cost to reproduce as of June 1, 1923, each and every item contained in said exhibit on a subcontract basis as the same is described in the testimony of Henry Burt. It is understood, however, that the appellant does not, by so stipulating, concede that the subcontractor's profit is properly included in such an estimate of the cost to reproduce, nor that the figure for field overhead should be included or is in the proper amount. Appellant reserves the right to contest on this appeal the propriety and the amount of both field overhead and subcontractor's profit.

(Signed) Samuel T. Moran, Solicitor for Plaintiff Appellee. John Holley Clark, Jr., Atty., City Solicitor for Attorney General, Appellant.

Dated New York, May 3, 1926.

[fol. 1241] PLAINTIFF'S EXHIBIT NO. 34

Kings County Lighting Company—55th & 65th Street Stations

General Summary of Costs Structures & Appurtenances as as of June 1, 1923

	Total cost	Pages
55th Street Station—Structures & Appurtenances	$659,631 69	1-52
65th Street Station—Structures & Appurtenances	93,301 82	1- 9
Grand total	$752,133 51	

NOTE.—The total figures above include a Field Overhead of 6.58% and a Contractor's Profit of 10%.

[fol. 1242] Kings County Lighting Company—55th St. Station

General Summary of Costs Structures & Appurtenances as of June 1, 1923

Structures:	Total cost	Pages
Office & Meter Building	$35,006 47	1 - 2
Exhauster House	15,729 19	3 - 4
Tank House	32,715 65	5 - 6
General Storage Building	17,127 90	7 - 8
Boiler House	23,884 55	9 -10
Old Purifier House	32,407 71	11-12
New Purifier House	44,446 59	13-14
Artesian Well Pump House	4,472 79	15
Machine Repair Shop & Stables	24,921 69	16-17
Vault	463 63	18
Generator House No. 1	49,235 03	19-20
Generator House No. 2	95,134 94	21-23
Transformer & Switch Room	14,065 36	24
Wash House	15,254 28	25-26
Coal Bin Tower	9,175 40	27
Hoist House	643 45	28
Ash Pit	2,178 18	29
Ash Bin—North	3.574 03	30

	Total cost	Pages
Ash Bin—South	3,998 50	31
Coal Hopper, Adjacent Boiler House	3,887 91	32
Coal Hopper Housing	1,063 32	33
Transfer Tower & Housing	5,979 85	34
Coal Pockets	104,601 19	35-36
Coal Trestle	27,064 33	37
Shavings House	3,538 52	38
Coal Hoist	7,410 08	39
Junction House for Conveyors	2,927 35	40
Toluol Building	13,945 18	41
Oil Pump House	2,748 92	42
Fence—Pipe Rack—Scale House	2,708 93	43
Bridge & Connect. Stairs Bet. Gen. #2 & Coal Shed	1,306 84	44
Housing & Supporting Structure for Conveyor	890 26	45
Elevator Pit	166 76	46
Weightometer House	1,099 30	47
Appurtenances:		
Paving & Retaining Walls	26,737 10	48
Gate & Fence S. of Office Buildin	582 48	49
Main Entrance Gate	2,036 75	50
Pier, foot of 54th Street	23,994 01	51
Main Sewer	1,707 27	
Grand total	$658,831 69	

NOTE.—The figures above include a Field Overhead of 6.58% and a Contractor's Profit of 10%.

[fol. 1243] Kings County Lighting Company—65th St. Station

General Summary of Costs Structures & Appurtenances as of June 1, 1923

	Total cost	Pages
Structures:		
Office & Shops	$73,028 08	1 - 3
Boiler House	6,531 45	4
Engine House	7,460 98	5 - 6
Booster House	911 20	7
Pipe Shed	1,608 66	8
Appurtenances:		
Fences & Pavements	3,761 45	9
Grand total	$93,301 82	

NOTE.—The above figures include a Field Overhead of 6.58% and a Contractor's Profit of 10%.

Office and Shops

Valuation as of June 1st, 1923

	Quantity	Unit	Unit price	Total cost
Excavation	715	Cu. Yd.	1 00	715 00
Back Fill	186	Cu. Yd.	60	111 60
Haul	529	Cu. Yd.	1 10	581 90
Concrete Footings, 1-3-5	95	Cu. Yd.	10 69	1,015 56
Concrete Walls, 1-3-5	195	Cu. Yd.	10 69	2,084 55
Wall Forms	6,888	Sq. Ft.	263	1,811 54
Cinder Fill on Ground	166	Cu. Yd.	1 20	199 20
Concrete Floor on Ground, 1-3-5	111	Cu. Yd.	10 69	1,186 59
Cement Finish, 1″	7,841	Sq. Ft.	105	823 31
Concrete Steps, 1-3-5	3	Cu. Yd.	11 19	33 57
Step Forms	144	Sq. Ft.	263	37 87
Concrete Walls around Steps, 1-3-5	9	Cu. Yd.	10 69	96 21
Wall Forms	372	Sq. Ft	263	97 84
Reinforced Steel	125	Lb.	057	7 13
Rein. Con. Slab over Boiler Rm. 1-2-4	6	Cu. Yd.	11 47	68 82
Slab Forms	384	Sq. Ft.	248	95 23
Rein, Mesh #26	528	Sq. Ft.	065	34 32
Beam Fireproofing, 1-2-4	1	Cu. Yd.	11 97	11 97
Beam Forms	165	Sq. Ft.	263	43 40
Rein. Con. Roof Slab, 1-2-4	117	Cu. Yd.	11 47	1,341 99

Valuation as of June 1st, 1923—Continued

	Quantity	Unit	Unit price	Total cost
Slab Forms	8,712	Sq. Ft.	248	2,160 58
Rein. Mesh #23	10,454	Sq. Ft.	065	679 51
Cinder Conc. Roof Fill	117	Cu. Yd.	7 41	866 97
Cement Finish on Cinder Fill ½"	9,504	Sq. Ft.	054	513 22
Beam Fireproofing, 1-2-4	33 5	Cu. Yd.	11 97	401 00
Beam Forms	3,232	Sq. Ft.	263	850 02
Concrete Curb on roof, 1-2-4	6	Cu. Yd.	11 97	71 82
Curb Forms	770	Sq. Ft.	106	81 62
Brickwork, Common	184 95	M.	49 55	9,164 27
Face Brick, Buff	59 4	M.	80 18	4,762 69
Paving Brick Against Concrete Walls	9 8	M.	92 62	907 67
T. C. Part. Blocks, 8"	2,198	Sq. Ft.	48	1,055 04
T. C. Flue Lining, 20" x 20"	48	Lin. Ft.	1 55	74 40
Salt Glazed Tile Coping, 12"	170	Lin. Ft.	51	86 70
Cut Limestone Sills, Coping, etc.	407 2	Cu. Ft.	6 50	2,646 80
Cut Limestone Wheel Guards	4	No.	18 00	72 00
Structural Steel—Plate Girders	13,884	Lb.	0638	885 80
Steel Beams	64,126	Lb.	0582	3,732 13
Bearing Plates	1,511	Lb.	0519	78 42
Steel Lintels	11,404	Lb.	0519	591 87
Struct. Steel-Cil. Cols. Caps & Bases	7,777	Lb.	071	552 16
Steel Windows, 10' 6" x 7' 8" Glazed	15	No.	64 43	966 45
Steel Windows, 10' 6" x 4' 8" "	2	No.	39 23	78 46

Steel Windows, 6′ 6″ x 7′ 8″ “	2	No.	39 89	79 78	
Steel Windows, 2′ 6″ x 7′ 6″ “	3	No.	15 00	45 00	
Steel Windows, 5′ 6″ x 4′ 8″ “	2	No.	20 55	41 10	
Steel Windows, 3′ 0″ x 4′ 8″ “	2	No.	11 21	22 42	
Steel Windows, 4′ 2″ x 4′ 8″ “	1	No.	15 58	15 58	
Steel Windows, 10′ 6″ x 2′ 0″	2	No.	16 80	33 60	
[fol. 1245] 3′ 0″ x 1′ 6″	1	No.	3 60	3 60	
Kalamein Doors, 5′ 6″ x 7′ 0″	4	No.	57 75	231 00	
Kinnear Rolling Steel Doors, 10′ 0″ x 13′ 6″	2	No.	540 00	1,080 00	
“ “ “ “ 5′ 0″ x 8′ 4″	2	No.	185 00	370 00	
Mis. & Orn. Iron, Pipe Rl. 1⅔″ Pipe, 3′ 6″ High	18	Lin. ft.	1 50	27 00	
Door Buck, 4″ Chan. Size of Door, 5′ x 7′	1	No.	7 77	7 77	
Door Sills, “L” & Diamnd Plt. 1,381 Lb. ea	2	No.	145 01	290 02	
Wall Guards, Made of “L”s	344	Lbs.	0779	26 80	
Partition, Framng, Small Angls & Chanls	708	Lbs.	0749	53 03	
Roofing, Composition	9,648	Sq. ft.	15	1,447 20	
Campfield Raggle Block #200	726	Lin. ft.	60	435 60	
Compo Flashing	1,026	Lin. ft.	225	230 85	
Galv. Iron Covering on Monitors	600	Sq. ft.	25	150 00	
“ “ Cutter, 6″	320	Lin. ft.	50	160 00	
“ “ Leaders, 3″	50	Lin. ft.	45	22 50	
Skylight, Hipp. G. I. Wire Cl. 6′ 0″ x 30′	1	No.	243 00	243 00	
“ “ “ “ “ 6′ 0″ x 18′	1	No.	145 80	145 80	
“ “ “ “ “ 6′ 0″ x 17′	3	No.	137 70	413 10	
“ “ “ “ “ 6′ 0″ x 12′	1	No.	97 20	97 20	
“ “ “ “ “ 6′ 0″ x 6′	1	No.	48 60	48 60	

Valuation as of June 1st, 1923—Continued

	Quantity	Unit	Unit price	Total cost
Burt Ventilators, 30″ Dia	2	No.	240 00	480 00
" " 24″ Dia	1	No.	190 00	190 00
#10 Copper Wire Strainers, 12″ Dia	20	No.	1 20	24 00
Side Windows in Monitors, Wood, Covered with #22 G. I.—3′ 0″ x 2′ 0″	20	No.	10 50	210 00
Side Windows in Monitors, Wood, Covered with #22 G. I.—2′ 6″ x 2′ 0″	48	No.	8 25	396 00
Side Windows in Monitors, Wood, Covered with #22 G. I.—2′ 8″ x 2′ 0″	16	No.	9 66	154 56
Side Windows in Monitors, Wood, Covered with #22 G. I.—2′ 10″ x 2′ 0″	20	No.	10 08	201 60
Rough Carpentry, 8″ Stock, Y. P	67	M. B. M.	95 30	63 85
12″ " "	67	M. B. M.	101 60	68 07
2″ x 4″ to 3″ x 8″ Y. P	89	M. B. M.	95 30	84 82
Floor, 3″ x 6″ "	2 46	M. B. M.	92 30	227 06
D. & M. Ceiling, ⅞″	205	Sq. ft.	146	29 93
Sleepers, 3″ x 4″	600	Lin. ft.	097	58 20
Maple Flooring, ⅞″	53	M. B. M.	197 65	104 75
Gate & Rl. in Off. 3′ High	42	Lin. ft.	4 00	168 00
Base with Shoe Mld., 8″ High	80	Lin. ft.	46	36 80
Chair Rl. ⅞″ x 4½″	80	Lin. ft.	17	13 60
Pict. Mldg. ⅞″ x 2″	80	Lin. ft.	09	7 20
Wood Doors, Int. 3′ x 7′	4	No.	41 50	166 00

" " Ext. Gl. 3' 0" x 7' 0"	1	No.	48 50	48 50
" " " " 4' 0" x 7' 0"	1	No.	53 75	53 75
Steps to Loading Pltfm., 3' 0" Wide, 4 Tr. ea	1	No.	15 00	15 00
Toilet Doors, 2' 0" x 5' 4"	3	No.	14 00	42 00

[fol. 1246]

Wood Door, 2' 10" x 7' 4"	1	No.	40 90	40 90
" " 2' 6" x 7' 0"	1	No.	25 00	25 00
" " 2' 8" x 6' 8"	1	No.	23 75	23 75
" " 5' 0" x 6' 8"	1	Pr.	35 00	35 00
" " 3' 0" x 7' 0"	1	No.	33 40	33 40
" " 3' 0" x 7' 0"	1	No.	38 00	38 00
" " 3' 0" x 7' 0"	1	No.	36 25	36 25
" Windows, 2' 8" x 6' 2"	1	No.	34 21	136 84
Sash Only—6' 0" x 2' 6"	2	No.	9 25	18 50
Hollow Metal Window in Partition—6 Sash ea. 12' 3" x 3' 6"	2	No.	96 48	192 96
Plastering on T. C. & Brick	390	Sq. Yd.	1 30	507 00
Plastering on Metal Lath	43	Sq. Yd.	2 24	96 32
Slate Stall Partition	126	Sq. ft.	1 10	138 60
Painting, Cold Water on Brick	8,984	Sq. ft.	02	179 68
" 2 Coat—Oil Paint on Steel Windows and Doors	8,500	Sq. ft.	0264	244 40
" 2 " " Galv. Iron	3,500	Sq. ft.	0264	92 40
" 2 " " Iron Work	800	Sq. ft.	0264	21 12
" 3 " " Wood Work	1,200	Sq. ft.	0477	57 24

Valuation as of June 1st, 1923—Continued

	Total cost
Hardware	103 61
Scaffold	1,200 00
Plumbing	4,273 49
Heating	3,724 44
Gas Piping	566 90
Electric	283 22
	62,290 45
Field Overhead—6.58%	4,098 71
	66,389 16
Contractor's Profit—10%	6,638 92
Total Cost	73,028 08

Boiler House

Valuation as of June 1, 1923

	Quantity	Unit	Unit price	Total cost
Excavation, 6′ 0″ Deep	94	Cu. Yd.	1.00	94.00
Backfill	41	Cu. Yd.	.60	24.60
Haul	53	Cu. Yd.	1.10	58.30
Concrete Footing, 1-3-5	4	Cu. Yd.	10.69	42.76
Concrete Floor on Ground, 1-3-5	6.5	Cu. Yd.	10.69	69.49
Cement Finish, 1″	527	Sq. ft.	.105	55.34
Concrete Walls, 1-3-5	5	Cu. Yd.	10.69	53.45
Wall Forms	280	Sq. ft.	.263	73.64
Brickwork	31.23	M.	49.55	1,547.45
Bluestone Sills, etc	5.9	Cu. ft.	5.80	34.22
Roofing Slate	10	Sq.	23.00	230.00
Roofing Paper	1,000	Sq. ft.	.01	10.00
Roofing Tin	403	Sq. ft.	.35	141.05
Deck Trim, Galv. Iron	75	Lin. ft.	.28	18.75
Flashing, Galv. Iron	198	Sq. ft.	.35	69.30
Gutter, 6″	110	Lin. ft.	.80	55.00
Roof Framing, 3″ x 6″—2″ x 8″ Y. P	2.59	M. B. M.	95.30	246.83
Sheathing, ⅞″ T. G	1.6	M. B. M.	71.50	114.56
Windows, D. H., 3′ 2″ x 6′ 10″	5	No.	33.70	168.50
Door, Batten, 6′ 0″ x 8′ 0″	1	Pr.	42.00	42.00

Valuation as of June 1st, 1923—Continued

	Quantity	Unit	Unit price	Total cost
Transome over Door, 1′ 8″ x 5′ 0″, Seg. Head	1	No.	30 00	30 00
Door Sill, C. I.	381	Lbs.	25	95 25
Painting, Cold Water on Brick	1,386	Sq. ft.	02	27 72
" " " Wood	1,350	Sq. ft.	02	27 00
3 Coats Oil, on Windows and Doors	800	Sq. ft.	0477	38 16
2 " Oil, Sheet Metal	600	Sq. ft.	0264	15 84
Hardware				11 60
Scaffold				100 00
Plumbing				405 89
Heating				436 88
Electric				1,233 52
				5,571 10
Field overhead—6.58%				366 58
				5,937 68
Contractor's Profit—10%				593 77
Total cost				6,531 45

Engine House

Valuation as of June 1, 1923

	Quantity	Unit	Unit price	Total cost
Excavation	348	Cu. Yd.	1 00	348 00
Backfill	80	Cu. Yd.	60	48 00
Haul	268	Cu. Yd.	1 10	294 80
Concrete Footings, 1-3-5	5 5	Cu. Yd.	10 69	58 80
Concrete Walls Area, 1-3-5	2⅓	Cu. Yd.	10 69	24 91
Wall Forms	233	Sq. ft.	263	61 28
Rein. Con. Floor Slabs, 1-2-4	10	Cu. Yd.	11 47	114 70
Slab Forms	710	Sq. ft.	248	176 08
Slab Rein. Mesh #14	781	Sq. ft.	065	50 77
Steel Beam Fireproofing	1 5	Cu. Yd.	11 97	17 96
Beam Forms	226	Sq. ft.	263	59 18
Cement Finish	710	Sq. ft.	105	74 55
Concrete Floor on Ground, 1-3-5	2 5	Cu. Yd.	10 69	26 73
Brickwork, Common	53 68	M.	49 55	2,659 84
Bluestone	34	Cu. ft.	5 80	197 20
Struct. Steel	5,637	Lbs.	0623	351 19
Area Gratings, 3′ 8″ x 4′ 8″	2	No.	21 43	42 85
3′ 8″ x 4′ 0″	1	No.	18 35	18 35
Steel stairs, 2′ 8″ Wide	9	Tr.	7 62	68 58
Pipe Rail, $1\frac{1}{4}$″ 2-pipe				26 89

Valuation as of June 1st, 1923—Continued

	Quantity	Unit	Unit price	Total cost
Truss Lumber, 6″ x 6″ Y. P.	35	M. B. M.	110 30	58 61
Roof Framing, 6″ x 6″ to 3″ x 6″ Y. P.	1 02	M. B. M.	95 30	97 21
Sheathing, ⅞″ T. G	1 22	M. B. M.	71 60	87 35
Ceiling, ⅞″ T. G	244	M. B. M.	145 65	35 54
Windows, Mull. D. H. 8′ 0″ x 7′ 0″	3	No.	67 60	202 80
Casement, 2′ 0″ x 2′ 6″	1	No.	12 75	12 75
Casement, 2′ 0″ x 4′ 0″	1	No.	21 50	21 50
Casement, 1′ 8″ x 3′ 6″	1	No.	17 00	17 00
Casement, 3′ 0″ x 3′ 0″	3	No.	19 25	57 75
Transomes over Windows, 8′ x 2′, Seg. Head	2	No.	48 00	95 00
" " " 4′ x 1′, " "	1	No.	32 00	32 00
" " " 3′ 8″ x 2′ 0″, " "	1	No.	32 00	32 00
Doors, Paneled, 4′ 0″ x 7′ 9″	1	Pr.	84 90	84 90
Transom & Jamb, No Door, 3′ 0″ x 8′ 4″	1	No.	14 75	14 75
Door, Interior, Paneled, 2′ 6″ x 6′ 0″	1	No.	13 75	13 75
Roofing Slate	11¾	Sq.	23 00	270 25
Roofing Paper	1,176	Sq. ft.	.01	11 76
Roofing Tin, #28	86	Sq. ft.	.35	30 10
Galv. Iron Monitor, Windows, 10′ x 1′ 0″	4	No.	7 50	30 00
Flashing, Galv. Iron	120	Sq. ft.	.35	42 00
Deck Trim, Galv. Iron	74	Lin. ft.	.25	18 50
Gutter, Galv. Iron, 6″ x 8″	100	Lin. ft.	.60	60 00
Painting, Cold Water on Brick	2,310	Sq. ft.	.02	46 20
" " " " Wood	844	Sq. ft.	.02	16 88

3 Coats Oil, Windows & Doors	1,750	Sq. ft.	.0477	83 48
2 Coats Oil, Sheet Metal	400	Sq. ft.	.0264	10 56
2 Coats Oil, Misc. Iron	250	Sq. ft.	.0264	6 60
[fol. 1249] Hardware				23 05
Scaffold				150 00
Plumbing, Incl. in Boiler House				.....
Heating, Incl. in Boiler House				.....
Electric, Incl. in Boiler House				.....
				6,363 96
Field overhead—6.58%				418 75
				6,782 71
Contractor's Profit—10%				678 27
Total cost				7,460 98

[fol. 1250] Kings County Lighting Company 65th St. Station

Booster House

Valuation as of June 1, 1923

	Quantity	Unit	Unit price	Total cost
Excavation & Haul	7 25	Cu. Yd.	2 10	15 23
Concrete Floor, 1-3-5	7 25	Cu. Yd.	10 69	77 50
Cement Finish	392	Sq. ft.	105	41 16
Sill Plate, 4" x 6" Spruce	11	M. B. M.	35 50	9 52
Angle Iron Frame, 1½" x 1½" x 1¼" "Ls"	1,385	Lbs.	0749	103 74
Galv. Iron Covering	1,008	Sq. ft.	22	221 76
Windows, 1' 8" x 2' 0", Sash Only	4	No.	4 00	16 00
Doors, Galv. Iron, 8' 0" x 8' 0"	1	Pr.	27 20	27 20
Painting, 2 Coats, Oil	2,016	Sq. ft.	0264	53 22
Hardware	.....	.....	.....	3 92
Electricity	.....	.....	.....	207 97
				777 22
Field overhead—6.58%				51 14
				828 36
Contractor's Profit—10%				82 84
Total cost				911 20

Kings County Lighting Company—65th St. Station

Pipe Shed

Valuation as of June 1, 1923

	Quantity	Unit	Unit price	Total cost
Excavation	31	Cu. Yd.	1 00	31 00
Backfill	9	Cu. Yd.	60	5 40
Haul	22	Cu. Yd.	1 10	24 20
Concrete Footings, 1-3-5	9	Cu. Yd.	10 69	96 21
Footing Forms	320	Sq. ft.	106	33 92
Concrete Floor on Ground, 1-3-5	7	Cu. Yd.	10 69	74 83
Cement Finish, 1"	449	Sq. ft.	105	47 14
Framing Lumber	1 26	M. B. M.	86 50	106 99
Doors, Built of Sheathing, 15' 6" x 9' 6"	1	Pr.	110 00	110 00
Doors, Built of Sheathing, 3' 0" x 7' 0"	1	No.	9 00	9 00
Metal Covering, Corrugated G. I.	1,008	Sq. ft.	20	201 60
Ridge Roll, G. I.	24	Lin. ft.	60	14 40
Pipe Racks of 2½" Dia., W. I. Pipe	664	Lin. ft.	75	498 00
Painting, 2 Coats Oil Paint on G. I.	2,000	Sq. ft.	0254	52 80
" 3 " " " on Wood	1,200	Sq. ft.	0477	57 84
Hardware				7 40
				1,372 13
Field overhead—6.58%				90 29
				1,462 42
Contractor's Profit—10%				146 24
Total cost				1,608 66

[fol. 1252] Kings County Lighting Company—65th St. Station

Fences & Pavements

Valuation as of June 1, 1923

	Quantity	Unit	Unit price	Total cost
Picket Fences at Holders				
Post Holes, 4′ 0″ Deep	62	No.	.75	46 50
Posts, 5″ Dia., Rough, 7′ 0″ Long	58	No.	2 00	116 00
" 6″ x 8″—8′ 0″ Long	4	No.	2 93	11 72
Rail, 2″ x 4″	.37	M. B. M.	95 30	35 26
Pickets, ¾″ x 2⅔″ x 4′ 0″	288	Number	.16	46 06
Coal Storage Fence				
Post Holes, 4′ 0″ Deep	10	No.	.75	7 50
Posts, 4″ x 4″—14′ 0″ Long	10	No.	2 15	21 50
Plank, 2″ x 12″	.9	M. B. M.	95 30	85 77
Bolts & Rods	224	Lbs.	.15	33 60
Fence at Office & Shops				
Post Holes 4′ 0″ Deep	36	No.	.75	27 00
Posts, 6″ x 10″ x 10′ 0″	36	No.	4 23	152 28
Rail, 3″ x 4″	.61	M. B. M.	95 30	58 13
Boarding ⅞″ x 3½″ T. G. Beaded	3 16	M. B. M.	76 60	242 06
Cap, 1″ x 2″	350	Lin. ft.	.0225	7 87
Strap Hinges, 16″ Long	6	Pr.	.60	3 60
Painting, 3 Coats Oil	7,912	Sq. ft.	.0477	377 40

Pavement—Concrete (Rough) 1-3-5	3	Cu. Yd.	10 69	32 07
Concrete Curb, 4″ x 6″	34	Lin. ft.	27	9 18
Flag Stone	32	Sq. ft.	36	11 52
Granite Block Pavement	52	Sq. Yd.	5 21	270 92
Cobble Stone, Bluestone	383	Sq. Yd.	4 21	1,612 43
				3,208 39
Field overhead—6.58%				211 11
				3,419 50
Contractor's Profit—10%				341 95
Total cost				3,761 45

[fol. 1253] PLAINTIFF'S EXHIBIT No. 35

Kings County Lighting Company—55th St. Station

Structure		Exp.
Office & Meter Room:		
Repair Plaster in two locations	$40 00	
Paint same	15 00	
Repair floor in two locations	80 00	
Four small lights of glass	4 00	
Six Large Lights of Glass	36 00	
Shim up stair carriage	20 00	
Twenty-six New Treads	52 00	
		$247 00
Toluol Building:		
Patch Stone Trim	18 00	18 00
Coal Hoist:		
Paint Steel	80 00	
Repair G. I.	34 00	
		114 00
Shavings House:		
Repair G. I. Exterior	110 00	
Repair Roof	40 00	
Replace Wood Sills, tow locations	20 00	
		170 00
Junction House for Conveyors:		
Replace Siding in three locations	30 00	30 00
Boiler House:		
Patch Brickwork, 1 location	20 00	
Paint Hand Rail	20 00	
Repair Monitor Roof	60 00	
One large Light of Wire Glass	5 00	
Two Lights of Plain Glass	4 00	
		109 00

Structure		Exp.
[fol. 1254] General Store Bldg.:		
Repair Floor, one location.	$12 00	
Repair Ceiling, Interior	30 00	
Repair one Tread	2 00	
		$44 00
Tank House:		
Repair Wood Floor	25 00	
Point Brickwork.	70 00	
		95 00
Exhauster House:		
Repair Broken Stile in Window Frame	4 00	
Three lights of Glass	3 00	
		7 00
New Purifier House:		
Replace Door Jamb	8 00	
Three Lights of Glass	3 00	
		11 00
Stable & Machine Shop:		
Patch Stone Sills & Watertable	18 00	
Repair Brick Floor	70 00	
New Stone Sill	14 00	
Point Brickwork.	22 00	
		124 00
Generator House #1:		
Repair Brickwork	10 00	
Replace 90 Lights of Wire Glass	135 00	
Repair Asbestos Siding	34 00	
Repair Door Sill	8 00	
		187 00
[fol. 1255] Wash House:		
Paint Sash.	$25 00	
Four Lights of Glass	1 50	
		$26 50
Hoist House:		
Paint Muntins.	8 00	8 00

Coal Pocket		
Repair Concrete Floor	80 00	80 00
Generator House #2:		
Point up Cracks in Brickwork	16 00	
Repair, Putty & Paint Muntins	75 00	
Twelve Lights of Glass	18 00	
Repair Stucco	60 00	
		169 00
Grand Total (Sheets #s 1-3 Inc		$1,439 50

Kings County Lighting Company—65th St. Station

Structure		Exp.
[fol. 1256] Office & Shops:		
Paint Sash	$70 00	
Repair Leak in Roof	20 00	
Replace some boards in loading platform	24 00	
Thirty-two Lights of Wire Glass	48 00	
One Light of Polished Wire Glass	3 00	
Repair Coping & Steps	12 00	
Repair Concrete Ramp & Stone Wheel Guards	18 00	
		$195 00
Pipe Shed:		
Repair G. I.	20 00	
Re-Paint	80 00	
		100 00
Boiler House:		
Repair Ridge Roll	20 00	
Whitewash Interior	54 00	
Eight Lights of Glass	8 00	
Replace Window Sills	10 00	
		92 00
Engine House:		
Repair Concrete Slab	20 00	
Nine Lights of Glass	9 00	
		29 00
Total (1 Sheet)		$416 00

Cost of Material

1	2		3	4	
Size of mains in inches	Total length of each size of mains in feet	Net tons *	Quantity of Pipe in Tons Required	Cost per Ton†	Co F
3″	11,176		86.33	$78.60	$6
4″	350,765	3,390.143	3,491.848	71.60	25(
6″	526,966	7,970.361	8,209.47	69.60	571
8″	76,466	1,608.845	1,657.110	67.60	11:
12″	80,537	2,973.023	3,062.21	67.60	20
16″	21,161	1,191.153	1,226.887	67.60	8:
20″	9,339	718.309	379.858	67.60	5(
24″	61	6.296	6.48	67.60	
	1,076,471		18,480.193		$1,28(

* These figures plus 3% will agree with Duncans

† Per Iro
May, 19
June, 19

[fol. 1258] Kings County Lighting Company

Cost of Material as

1	2		3	4	5
Size of mains in inches	Total length of each size of mains in feet	Net tons *	Quantity of Pipe in Tons Required	Cost per Ton†	Cost o Pipe
3″	11,176		86 33	$78 60	$6,78
4″	350,765	3,390 143	3,491 848	71 60	250,01
6″	526,966	7,970 361	8,209 47	69 60	571,37
8″	76,466	1,608 845	1,657 110	67 60	112,02
12″	80,537	2,973 023	3,062 21	67 60	207,00
16″	21,161	1,191 153	1,226 887	67 60	82,93
20″	9,339	718 309	379 858	67 60	50,01
24″	61	6 296	6 48	67 60	43
	1,076,471		18,480 193		$1,280,59

* These figures plus 3% will agree with Duncans

† Per Iron A
May, 1923,
June, 1923,

–Distribution System—Mains

f June 1, 1923

	6	7	7	9
	Cost of Other Material per lineal foot	Cost of other Material	Cost of pipe and other Material	Cost of pipe and other material per lineal foot
.54	$ 054	$603 50	$7,389 04	$ 661
32	.094	32,971 91	282,988 23	.807
11	.131	69,032 55	640,411 66	1 215
.64	.242	18,504 77	130,525 41	1 707
.40	.42	33,825 44	240,830 84	2 99
.09	.84	17,775 24	100,712 33	4 76
.40	.93	8,685 27	58,699 67	6 29
.05	.93	56 73	494 78	8 11
.55		$181,455 41	$1,462,051 96	

—6″
.50
1.35

[fol. 1257] PLAINTIFF'S EXHIBIT No. 36

Kings County Lighting Company—Distribution System

Total Cost of Laying Cast Iron Main	Sheet 4	Col. 6	$2,815,140.64
Total Cost of Laying W. I. & W. S. Main	Sheet 5	Col. 6	10,064.86
Total Cost of Repaving over Cast Iron Main	Sheet 6	Col. 4	1,022,143.05
Total Cost of Repaving over W. I. & W. S. Main	Sheet 7	Col. 4	3,769.16
Total Cost of Special Material	Sheet 8		73,411.49
Total Cost of Services	Sheet 9	Col. 6	1,109,686.53
Total Cost of Repaving over Services	Sheet 9		418,434.94
			$5,452,650.67

(Here follows paster marked side folio page 1258)

[fol. 1259] Kings County Lighting Company—Distribution System—Mains

Cost of Laying Mains Per Lineal Foot as of June 1, 1923

Size of mains in inches	Cost of labor, for excavation, hauling, laying mains, back filling, per lineal foot	Cost of insurance per lineal foot	Cost of administration and other expenses of contractor per lineal foot	Total Cost of labor, insurance and other expenses of contractor per lineal foot
3".....	.81	.027	.135	.972
4".....	.81	.027	.135	.972
6".....	.81	.027	.135	.972
8".....	.864	.028	.105	.997
12".....	.925	.031	.141	1.10
16".....	1.86	.084	.23	2.174
20".....	2.027	.103	.27	2.40
24".....	2.592	.117	.291	3.00

[fol. 1260] Kings County Lighting Company—Distribution System—Mains

Cost of Cast Iron Mains as of June 1, 1923

1	2	3	4	5	6
Size of mains in inches	Total length of each size of mains in feet	Total cost of labor, insurance, and other expenses of contractor per lineal foot	Cost of material per lineal foot	Total cost per lineal foot	Total cost of laying mains
3".....	11,176	$.972	$.661	$1.633	$18,250.41
4".....	350,765	.972	.807	1.779	624,010.94
6".....	526,966	.972	1.215	2.187	1,152,474.64
8".....	76,466	.997	1.707	2.704	206,764.06
12".....	80,537	1.097	2.99	4.087	329,154.72
16".....	21,161	2.174	4.76	6.934	146,730.37
20".....	9,339	2.40	6.29	8.69	81,155.91
24".....	61	3.00	8.11	11.11	677.71
	1,076,471				$2,559,218.76
Incidentals and profits 10%.....					255,921.88
					$2,815,140.64

[fol. 1261] Kings County Lighting Company—Distribution System—Mains

Cost of Laying Wrought Iron & Wrought Steel Mains as of June 1, 1923

1	2	3	4	5	6
Size of mains in inches	Total length of each size of mains in feet	Total cost of labor, insurance, and other expenses of contractor per lineal foot	Cost of material per lineal foot	Total cost per lineal foot	Total cost of laying mains
1".....	245	$.621	$.184	$.805	$197.23
1½".....	3,169	.621	.22	.841	2,665.13
2".....	2,239	.621	.274	.895	2,003.91
3".....	187	.621	.606	1.227	229.45
4".....	69	.621	.92	1.541	106.33
6".....	85	.972	1.28	2.252	191.42
8".....	123	.997	1.60	2.597	319.43
10".....	109	1.05	2.40	3.45	376.05
12".....	125	1.10	2.80	3.90	487.50
16".....	155	2.174	4.30	6.474	1,003.47
18".....	148	2.30	5.40	7.70	1,139.60
	7,175				$9,149.87
10% Incidental and profit.....					914.99
					$10,064.86

[fol. 1262] Kings County Lighting Company—Distribution System—Mains

Cost of Repaving Over Cast Iron Mains as of June 1, 1923

1	2	3	4
Size of mains in inches	Total length of main of each size under pavement in lineal feet	Cost of repaving per lineal foot of main	Total cost of repaving over mains
3"	6,950	$1.10	$7,645.00
4"	273,816	1.10	301,197.60
6"	378,434	1.10	416,277.40
8"	54,289	1.10	59,717.90
12"	67,472	1.56	105,256.32
16"	16,510	1.69	27,901.90
20"	5,786	1.94	11,224.84
	803,257		$929,220.96
Incidentals and Profit 10%			92,922.09
			$1,022,143.05

[fol. 1263] Kings County Lighting Company—Distribution System—Mains

Cost of Repaving Over Wrought Iron & Steel Mains as of June 1, 1923

1	2	3	4
Size of mains in inches	Total length of main of each size under pavement in lineal feet	Cost of repaving per lineal foot of main	Total cost of repaving over mains
1½"	1,234	$1.10	$1,357.40
2"	655	1.10	720.50
3"	187	1.10	205.70
4"	...	1.10	.....
6"	85	1.10	93.50
8"	123	1.10	135.30
10"	109	1.56	170.04
12"	125	1.56	195.00
16"	155	1.69	261.95
18"	148	1.94	287.12
	2,821		$3,426.51
Incidentals and Profit 10%			342.65
			$3,769.16

[fol. 1264] Kings County Lighting Company—Distribution System—Mains

Special Materials as of June 1, 1923

1 Kind of special material	2 Total cost
105 Valves, fittings and specials	$28,427.49
4 Governor pits	11,272.55
28 Valve boxes	2,800.00
436 Line drip pots—222,961 lbs. @ .08	17,836.88
540 Drip boxes @ 6.40	3,456.00
1,636 Curb boxes @ 1.80	2,944.80
	$66,737.72
Incidentals and profit 10%	6,673.77
	$73,411.49

[fol. 1265] Kings County Lighting Company—Distribution System—Services

Cost of Services as of June 1, 1923

1 Size of service in inches	2 Total length of each size of services in feet	3 Total Cost of laying per lineal foot	4 Cost of pipe and fittings per lineal foot	5 Total cost per lineal foot	6 Total cost of instaling services
1"	10,804	$.621	$.184	$.805	$8,697.22
1¼"	395,365	.621	.205	.826	326,571.49
1½"	742,142.5	.621	.20	.821	609,298.99
2"	63,974	.621	.274	.895	57,256.73
3"	5,153	.621	.606	1.227	6,322.73
4"	427.5	.621	.92	1.541	658.78
	1,217,866				$1,008,805.94
Incidentals and profit 10%					100,880.59
					$1,109,686.53
Paving over Service:					
20,342 services at 17 feet—345,814 @ $1.10 per ft					$308,395.40
Incidentals and profit 10%					38,039.54
					$418,434.94

[fol. 1266] In United States District Court

[Title omitted]

Stipulation re Plaintiff's Exhibit No. 39

It is hereby stipulated and agreed, that plaintiff's Exhibit No. 39, which is endorsed or entitled: "Inventory and Appraisal of the Property of the Kings County Lighting Company as of June 1, 1923," be not printed in full, but

that pages 1 to 33, inclusive, and pages 41 to 52, inclusive, being the inventory and prices in detail of the gas manufacturing equipment and apparatus at the 55th Street works, be omitted from the printed record herein, and the balance of said exhibit printed.

It is further stipulated and agreed by the appellant, but only for the purpose of this appeal;

(a) All the apparatus and foundations contained in plaintiff's Exhibit 39 were in existence on June 1, 1923;

(b) All the apparatus and foundations set forth in plaintiff's Exhibit 39 were used and useful in the business of the plaintiff on June 1, 1923;

(c) The items, quantities and total cost contained in plaintiff's Exhibit 39 are a correct estimate of the cost to reproduce as of June 1, 1923, each and every item on a labor, material and subcontract basis as the same is described in the testimony of Alten S. Miller; provided, however, that [fol. 1267] this stipulation does not apply to any figures contained on first and second pages, following the index, general summary, entitled "Value of the Property of The Kings County Lighting Company as of June 1, 1923," taken from plaintiff's Exhibit 34 or any other exhibits of plaintiff, nor does appellant concede that the elements set forth in pages a-g- entitled "Notes Regarding Certain Necessary Elements of Cost in Reproducing the Property of the Company" are properly included in such an estimate of the cost to reproduce or are in the proper amount. Appellant reserves the right to contest on this appeal the propriety and the amount or any or all of such elements.

(Signed) Samuel F. Moran, Solicitor for Plaintiff, Appellee. John Holley Clark, Jr., Atty., Solicitor for Attorney General, Appellant.

[fol. 1268] PLAINTIFF'S EXHIBIT No. 39

Inventory and Appraisal as of June, 1923

[fol. 1269] Kings County Lighting Company

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Book Accounts	65

[fol. 1270] Value of the Property Kings County Lighting Company as of June 1, 1923

Land as appraised by Messrs. David F. Porter and Lewis H. Pounds (G110)	$994,002
Buildings as appraised by Mr. Henry R. Burt (221 and G121)	752,134
Gas Manufacturing Plant and Holders (other than land and buildings) (221, G141a, 222, G141b, G143b, G145, G143a, 224, 225 and 238)	1,514,563
Street Mains and Special Material, as appraised by Mr. John H. Duncan (231)	3,924,529
Services, as appraised by Mr. John H. Duncan (232)	1,528,121
Meters (233 and 234)	816,870
General Equipment, including Office, Shop, Store, Stable Equipment, etc., as shown by the books of the Company (G122a, G122b, G122c, G122d and 238)	97,825
Tools and Implements, as shown by the books of the Company (237)	4,716
Omissions and Contingencies	75,728
Organization and Development prior to construction (101 and G102)	650,000
Cost of Financing	680,000
Engineering, Superintendence and General Contractor's Expenses and Profit (G281)	577,148
Interest during construction (G285)	949,563
Taxes during construction (G284)	64,639
Administrative, Legal and Miscellaneous General Expense during construction (282 and G286)	209,306
Working Capital (G10, 3, 313, 322 and 323) (1, 5, 321, 324 and 332)	855,227
	$13,694,371

No allowance has been made in the above for the value of the easement, franchise, going value, or any other property not specifically mentioned.

[fol. 1271] Equipment at Gas Plants, including Gas Holders		$1,514,562 78
Omissions and Contingencies—5%		75,728 14
Buildings and Appurtenances		752,133 51
		2,342,424 43
Engineering & General Contractor's Expenses & Profit:		
13% on above items	$304,515 18	
5% on Mains	196,226 46	
5% on Services	76,406 07	
		577,147 71
Mains		3,924,529 20
Services		1,528,121 47
		8,372,222 81
Administrative, Legal & Miscellaneous General Expenses during Construction—2½%		209,305 57
		8,581,528 38
Interest during Construction:		
$8,581,528.38 at 8%	$686,522 27	
On Land for 2 Years $994,002.00 at 8%	159,040 32	
		845,562 59
Land		994,002 00
Meters		816,869 97
Equipment from Book Accounts:		
Small Tools		4,716 01
Laboratory Equipment	$4,917 55	
Office Furniture & Equipment	54,025 90	
Stable & Garage Equipment	34,131 59	
Store Equipment	4,749 72	
		97,824 76

Working Capital		855,227 05
Taxes on Land for 2 Years—$19,496.47 × 2	$38,992 94	
Taxes on Improvements for 6 months—$51,292.80 × ½	25,646 40	
		64,639 34
		12,260,370 10
Organization and Development:		
$\frac{\$12,260,370\ 10}{94\ 2} = \$13,015,254.88$ at 5% = $650,762 74		650,000 00
		12,910,370 10
Interest on Organization and Development $650,000.00 at 8% for 2 Years		104,000 00
		13,014,370 10
Financing:		
$\frac{\$13,014,370\ 10}{19} = \$684,966\ 85$		680,000 00
Total		$13,694,370 10

[fol. 1272] Notes Regarding Certain Necessary Elements of Cost in Reproducing the Property of the Company

Working Capital

(Account Nos. G10, 3, 313, 322 and 323)

(1, 5, 321, 324 and 332)

Working Capital may be defined as the total floating or mobile capital required in addition to the Fixed Capital. It may be in the form of Current Assets or in the form of Materials and Supplies. For the efficient and economical carrying on of the multitudinous transactions of daily operation, money has to be put into things which are not reflected in the fixed capital accounts as of any particular

date of inventory, and a reservoir of cash has to be kept on hand, so as to handle current transactions promptly and economically. These elements of outlay and investment—representing property and assets actually and necessarily used in the carrying on of the gas business—are grouped as "Working Capital," to the end that they may be included in the property and investment upon which a rate yielding a fair return is to be computed.

The Uniform System of Accounts for gas corporations defines the capital of such corporations to be and mean all property devoted to the rendering of the services of the production of the commodities which are within the purposes of the corporation. Capital, other than "Fixed Capital," is called "Floating Capital," and "Floating Capital" is divided into two major groups, "Materials and Supplies" and "Current Assets." Current Assets include "Cash," "Accounts Receivable," "Bills Receivable," etc. Working Capital may perhaps best be considered in relation to these two elements separately.

The first element covers general stores and supplies. It covers the cost, including transportation of all materials and supplies acquired by the company for its gas operations.

The second element covers the funds necessary to meet payment incidental to the ordinary conduct of the business for the prompt payment of bills in order to procure trade discounts for advance payments which good business judgment makes necessary or desirable, and for the purchase of materials advantageously as to price, quantity and time. It also covers the moneys or floating assets into which the mobile capital of the company has gone, not yet reflected in fixed capital accounts or operating revenues. In this latter category are (1) accounts receivable, representing outlays for which moneys are due the company and have been billed to consumers, purchasers of appliances and other debtors; and (2) the sums which will later be billed to consumers for gas manufactured by the company and already used by such consumers, but which have not yet been billed. The company has already used and paid for oil, coal and other materials, and labor, in making this gas. On the average, about twenty days elaspe between the furnishing of gas to a consumer and the sending to him

of the bill which transfers the debt to a status of an account receivable. Unless this element of gas furnished but not yet billed is allowed as a part of working capital investors [fol. 1273] in the company will be denied a return on a quantity of assets for which they have had to provide funds.

I have taken the average working capital being used by the company during the year 1923, which, determined by averaging the monthly balance, was $855,227.

Concerning Undistributed Structural Costs

There are certain expenditures incident to the construction of a plant for making and distributing gas, all of which were made to some degree in constructing this property, under the costs and conditions from time to time prevailing, and all of which would have to be made under present costs and conditions to the extent now shown in reproducing this property as of the present time, and yet which cannot be accurately apportioned among the various inventoried items. These elements of unavoidable expenditures include:

Omissions and Contingencies,
Organization and development prior to construction,
Cost of Financing,
Engineering and Superintendence, and General Contractor's Expense and Profit,
Interest during construction,
Taxes during construction, and
Administrative, Legal and Miscellaneous General Expense.

In making an inventory and appraisal of the reproduction cost of this complaint's property, I considered separately what would probably be the expenditures for such of the several services named, taking into account all the available facts bearing on the conditions and cost of reproducing this plant and system. In working out such an estimate of required outlays, I took the construction period as beginning when the sponsors or promoters of the project have secured the agreement of bankers to supply necessary funds. For the purpose of computing undistributed structural costs I have used a period of two years, not because it would be reasonably possible to complete the

plant and distributing system in that period but because it is a minimum period, and, if the period should be extended, the undistributed structural costs will be increased.

Omissions and Contingencies

In estimating the cost of reproducing a gas manufacturing plant and appurtenant structures and equipment, allowance has to be made, as a practical matter, for omissions and contingencies, covering the following:

(1) A portion or percentage of the small units or items of machinery, tools, implements and other property are always overlooked in the inventory, but their reproduction has to be provided for, nevertheless, in any present [fol. 1274] estimate.

(2) Small units of materials, mechanism and supplies are lost or destroyed during construction. As to many items of materials and supplies, a larger quantity has to be delivered and paid for than could ever be checked up now, in the completed structures and equipment.

(3) Other contingencies arise; for example, strikes or labor difficulties, interruption or delaying of work from adverse weather, delay in shipments, or other conditions, unfor-seen extra work, factors affecting the suitability or availability for use of materials, supplies, machinery, parts, etc., as needed, and the like. Expense arises in all such connections, for which advance provision has to be made in estimating cost to reproduce as of today.

Every contractor, builder, vendor of machinery, and every business man of experience knows that this item covering omissions from inventory, loss of small units during construction, unforeseen contingencies arising during construction, etc., is an actual factor, for which a practical provision must be made.

The sum of $75,728. which I have estimated as necessary for this item as to this company, amounts to about five per cent, on the cost of reproducing the apparatus, plant equipment, etc., exclusive of the buildings and the distributing system.

Organization and Development Expenses Prior to Construction

(P. S. C. Accounts 101 and G102)

This item covers the services and expenses necessary in the organization and development of the company from the time of the inception of the project to the time when the charter, franchises, local consents, permits, etc., have been procured, agreements obtained for the furnishing of the requisite capital and the project brought to a point where construction can be commenced.

The costs comprised under this heading cover the compensation, on a reasonable salary basis, for the services of the sponsors; the salaries of stenographers, clerks and other assistants; general expenses, such as rent and traveling expenses; the preparation and circulation of prospectuses and preliminary advertising; the expenses for obtaining the charter, including incorporation fee and the payment to the State on Capital stock; expenses in connection with obtaining ordinances, franchises, permits and local consents, the cost of the many aspects of legal and engineering advice that is pre-requisite; other technical expenses; interest on expenditures incurred during this period, etc.

From the whole situation with respect to this company, I am of opinion that a reasonable cost for Organization and Development prior to construction is $650,000 for the company, and that this expense could not be met, as of the present time, with a smaller outlay.

[fol. 1275] Cost of Financing

Taking into account the nature and status of this enterprise and the amount of securities necessary to be marketed to reproduce it, I am of the opinion that there is an additional element of cost, separate and distinct from bond discount, which has to be taken into account and considered as a cost for necessary service, and just as much a part of the cost of reproduction of property as engineering or legal expenses.

The expense of assembling the necessary capital is ordinarily reflected in the difference between the actual sale

price of the securities to the ultimate investors and what the company itself realizes from such securities. One element in this difference represents the reasonable compensation for bankers' services in marketing the securities and forwarding the funds yielded. It covers individual and corporate expenses, and the expenses of examination negotiation, advertising and selling through all the various stages until the sale to the ultimate investor is accomplished. Such an expense would be incurred even if the utility company dispensed with bankers and marketed its securities through its own salesmen and agents. In fact, this latter method undoubtedly would require more time, and cost more than if recourse were had to an existing banking house with an established reputation and clientele.

Another element in the cost of financing arises out of underwriting, under the conditions of hazard as to the launching of such an enterprise, in such a community at this time. These two elements of necessary expense, comprehending the cost of the organization furnishing services to the company, seems to me to be in the same class with the cost of services furnished by the engineering, legal and administrative organization of the company, and therefore constitute a part of the cost of reproduction. Every person who has had an active part in the flotation of a construction enterprise in the public utility field in recent years, knows that this element of cost is a very substantial factor and that the allowance of $680,000. for the company, which I have made, representing approximately five per cent, on the project, is substantially below the figures for which this service could, in any probability, be procured under present conditions.

Engineering, Superintendence and General Contractor's Expenses and Profit

(Account No. G281)

Engineering work, including general design to provide for the construction of large gas properties, calls for a kind of experience not generally possessed by the operating engineers connected with such companies. In the case of this company there is every reason to suppose that it

would be cheaper to secure the services of engineers fully equipped to handle designing work on a large scale than it would be to organize an engineering force for the purpose of making designs.

[fol. 1276] Work under this heading includes location surveys, general and detailed designs and drawings, preparation of specifications and such general supervison over the work during construction as to insure that the work is being carried out in accordance with the general plans. This is not intended to cover any of the detailed inspection either of the quality of the material or of the placing of the materal, but it covers general supervision only and the preparation of detailed plans.

It is found to be much cheaper and more expeditious to let to a general contractor, who has the organization and equipment to build large plants and to install large distribution systems, than it is to organize and train a special construction force and to buy the necessary equipment in order to build such plants and install such distribution systems. If the utility company organizes a construction department and buys the construction plant, the chances of saving anything in cost are slight, and, on the other hand, the chances of material increase in cost due to the risk of working with a new and uncoordinated staff are very great. Almost every investor has knowledge of cases where enterprises have cost far more than the amount of the original estimates due to the placing of construction work in the hands of company employees, or contractors not qualified to handle it. The chance of the utility finding a man able and ready to organize a construction force and to assemble at a reasonable expense a construction plant is small; in fact, the chances are all against the utility in this respect and a wise management would save money by putting the work into the hands of contractors regularly organized for this class of work.

The work under this heading includes providing a construction plant, securing and tabulating bids from subcontractors and placing orders for buildings, and apparatus, ordering and assembling material not included in subcontractors' estimates and placing and erecting this material, checking material and subcontractors' work and paying for same, coordinating the work of the subcon-

tractors and of the general contractor and taking all necessary steps to secure the delivery of the required materials and parts of apparatus or buildings in such time and in such order as to insure the completion of each part of the plant and of the entire plant in the allotted time, and to reduce as much as possible the delays due to lack of prompt delivery of materials and mutual interference of the various working forces. It would require at least $577,148. for the company to cover this cost at the present time.

Interest During Construction

(Account No. G285)

Included in this category is the interest accruing upon the moneys (and credits available upon demand) acquired for use in connection with the construction and equipment of the property from the time of such acquisition until the construction is ready for use. This item also covers rea- [fol. 1277] sonable charges for interest for the construction period on the company's own funds used for construction purposes during such periods.

For the computation of interest during construction, the period of construction is defined to begin with the agreement of bankers to supply the funds necessary for construction, and to end when its operation begins.

It is estimated that the property would not go into operation in less than two years after the beginning of construction. All of the land would have to be purchased before beginning construction, and interest upon it should be figured for two years. An interest rate of eight per cent. is taken as required for the obtaining of the requisite new capital by a gas company in this territory. As to cost of buildings and appartus, and the cost of engineering, superintendence, administrative and legal service, and miscellaneous general expense, interest should be calculated for one year at the eight per cent. rate. There is also to be included interest at 8% during the two year construction period on the organization and development expenses prior to the beginning of construction.

The proper provision for interest during construction is $949,563. for the company.

Taxes During Construction

(Account No. G284)

Included in this category are the various taxes and assessments levied by public authority and payable on property belonging to the corporation during the period of construction and before the plant is open for commercial operation. Taxes incident to operation only are not included, nor are the special taxes assessed for street and other improvements, such as grading, paving, sidewalks, guttering, etc., which are chargeable to the account to which is charged the particular property benefited.

Taking into account the period elapsing between a given construction expenditure and the first payment of taxes thereon, it is deemed proper to include taxes on land for a period of two years and on improvements for six months at the 1923 rate and assessed valuation.

On this basis, the required provision for taxes during construction is $64,639 for the company.

Administrative, Legal and Miscellaneous General Expenses

(Account Nos. G282 and G286)

Included in this category are the salaries and expenses [fol. 1278] of executive and general officers, auditor, bookkeepers, timekeepers, inspectors and other employees of the company; the rent and expenses of the general office, insurance during construction, legal and court expenses, including the printing of briefs, legal forms, testimony, reports, etc.; payment to referees or arbitrators for the settlement of disputed questions; costs of suits for other causes than injuries to persons and payment of special fees, etc.; the expenses of the taking of depositions; also all construction and equipment items of a special and incidental nature not provided for under any other heading in this inventory.

During the construction period the administrative officers and legal department must look after many details. Bookkeeping, auditing and paymaster's departments must be organized to care for and account for the funds. Time-

keepers and inspectors must check the delivery and quality of material and the amount and progress of the work so that the contractor may be paid from time to time without danger of being overpaid. The development of satisfactory public relations requires the attention of the general officers and as far as possible of everybody in the organization during this period. Negotiations and formalities incident to the issuance of securities have to be undertaken and completed. Permits from the municipal departments for opening the streets must be secured and questions relating thereto frequently require the attention of the higher officials of the company. The general officers should examine the bids from the subcontractors, advise as to the letting of subcontracts and keep themselves informed regarding the status of the subcontracts until the work covered by them is completed and the bills paid. During this same period an operating organization should be perfected and plans made for securing the business as rapidly as possible after the plant is put in operation.

The services and expenses of the administrative and legal staff, and the miscellaneous general expenses, continue during the entire construction period.

For this item my estimate for the present required expenditure aggregates $209,306.

[fol. 1279] Kings County Lighting Company

Summary of Costs

Fifty-Fifth Street Works

Artesian Well House	$2,101 89	
Boiler House Basement	4,514 63	
Boiler House	90,745 43	
Engine House	48,689 31	
Generator House No. 1	99,982 10	
Generator House No. 2	269,970 91	
Hoisting House on Deck	1,918 55	
Meter Building	15,453 73	
Oil Pump House	1,619 35	
Pump House at Generator House No. 2	3,279 86	
Purifier House	102,972 08	
Shops Building	809 02	
Tower Room	4,782 05	
Yard	331,711 82	
Small Piping	84,308 33	
Large Piping	101,799 28	
		$1,164,658 34

Sixty-Fifth Street Station

Boiler House	$9,805 32	
Engine House	19,037 32	
Engine Room Extension	2,043 34	
Yard	304,335 55	
Small Piping	2,369 99	
Large Piping	12,312 92	
		349,904 44
		$1,514,562 78

[fol. 1280] Page 34, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: 65th Street.
Building: Boiler House

Reference	Item	Quantity	Total cost
	Boilers:		
C 130	Donahue Boilers—54 tubes 4" dia. x 16' 0"....	2	$7,700.00
	Foundations	..	611.58
	Stack:		
C 149	Steel smoke stack—3' 0" dia. x 62' 6" high..	1	840.00
	Pump:		
C 148	Cameron Pump 6" x 3" x 7".....	1	202.00
	Foundations	..	4.09
	Blower:		
C 129	Coppus Turbo Blower 16"	1	202.00
	Feed Water Heater:		
C 143	Cochrane Feed Water Heater—Type A—5000..	1	210.00
	Foundations	..	5.83
	Pressure Gauge:		
C 138	U. S. Pressure Gauge 5"	1	5.42
	Total for page		$9,780.92

[fol. 1281] Page 35, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: 65th Street Station.
Building: Boiler House (Final)

Reference	Item	Quantity	Total cost
	Scale:		
C 148	Fairbanks Platform Scale—1,000 lbs.	1	$24.40
	Total for page 35		$24.40

Recapitulation

Page 34	$9,780.92
" 35	24.40
Total for building	$9,805.32

[fol. 1282] Page 36, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: 65th Street Station. Building: Engine House

Reference	Item	Quantity	Total cost
	Exhauster with Motor and Gas Engine:		
C 131-135	Roots Exhauster #10 direct connected to General Electric Motor 150 H. P. alternate drive chain belted to Nash Gas Engine—3 cylinder vertical: Complete equipment	1	$14,577.60
	Foundations	..	1,291.32
	Motor Generator:		
C 146	Mechanical Appliance Co. Motor Generator Set, 1 K. W., with Switchboard	1	363.75
	Foundations	..	5.98
	Storage Batteries:		
C 129	Marko Storage Batteries, 20-40 Ampere Hours	7	178.00
	Governor:		
C 142-3	Isbell Porter Governor—16"	1	473.00
	Total for page		$16,889.65

[fol. 1283] Page 37, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: 65th Street Station. Building: Engine House (Cont.)

	Oil Pump and Tank:		
C 147	Bowser Oil Pump and Tank	1	$183.00
	Arch Gauges:		
C 137	American Meter Arch Gauges, 12"	2	148.00
	U Gauges:		
C 141	U Gauges, 16"	2	23.50
C 141	U Gauges, 8"	1	7.25
	Telemetric Gauges:		
C 140	Kennedy Telemetric Gauges.....	2	1,215.00
	Recording Pressure Gauges:		
C 139	Schaeffer and Budenberg Recording Pressure Gauge, 12" chart	1	49.60
C 139	Bristol Recording Pressure Gauges, 8" chart ..	3	126.75
C 140	Schaeffer and Budenberg Recording Pressure Gauge, 8" chart	1	42.00

Reference	Item	Quantity	Total cost
	Recording Thermometers:		
C 151	Bristol Recording Thermometers, 12" chart..	2	172.36
	Total for page 37		$1,967.46

[fol. 1284] Page 38, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: 65th Street Station.
Building: Engine House (Final)

Reference	Item	Quantity	Total cost
	Recording Pressure Gauges:		
C 139	Bristol Recording Pressure Gauge, 12" chart	1	$50.67
C 139	" " " " 8" "	1	42.25
	Clock:		
C 130	Crosby Clock—6" dia.	1	34.00
	U Gauges:		
C 141	U Gauge, 14"	1	10.00
C 142	" " , 24"	1	17.50
C 142	" " , 12"	1	7.10
	Thermometer:		
C 150	Thermometer—6"	1	18.69
	Total for page		$180.21

Recapitulation

Page 36	$16,889.65
" 37	1,967.46
" 38	180.21
	$19,037.32

[fol. 1285] Page 39, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: 65th Street Station.
Building: Engine Room Extension

Reference	Item	Quantity	Total cost
	Exhauster with Motor:		
C 136-7	Sturtevant Exhauster, Size 25, direct connected to Sturtevant Motor 30 H. P.	1	$1,935.00
	Foundation	..	108.34
	Total for Building		$2,043.34

[fol. 1286] Page 40, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: 65th Street Station.
Building: Yard

Reference	Item	Quantity	Total cost
	Muffler:		
C 146	Cast Iron Muffler	1	$45.00
	Pumps, Drip:		
C 147	Goulds Drip Pumps	7	86.80
	Holders:		
C 144	Holder 2,000,000 cu. ft.	1	186,165.23
	Foundations	..	32,282.65
C 144	Holder—500,000 cu. ft.	1	73,608.83
	Foundations	..	11,826.20
	Tanks:		
C 149	Steel tank 6' 0" dia. x 6' 0" high	1	193.67
C 150	" " 7' 2" x 3' 2" x 1' 7"	1	170.00
	Foundations	..	17.17
	Total for Yard		$304,335.55

[fol. 1287] Kings County Lighting Company

Priced Inventory of Small and Large Piping as of June 1st, 1923

65th Street Station, Brooklyn, New York

[fol. 1288] Page 53, 6-1-23

Kings County Lighting Company

65th Street Station, Brooklyn, New York

Small Piping

Total Cost of Pipe	$1,732 23
" " " " Covering	238 18
" " " " Trenching	100 61
" " " " Pits, and Supports	298 97
	$2,369 99

[fol. 1289] Page 54, 6-1-23

Piping:

¼" Std. Steel Pipe (plain)	20' 8"	$5.58
⅜" " " " "	137' 8"	37.17
½" " " " "	73' 2"	21.95
¾" " " " "	144' 11"	53.62
1" " " " "	152' 4"	77.69
1¼" " " " "	125' 9"	91.80
1½" " " " "	252' 4"	222.05
2" " " " "	277' 1"	313.10
2" Ex. Heavy Steel Pipe (plain)	85' 4"	115.19
3" Std. Steel Pipe (plain)	39' 7"	81.93
4" " " " "	143' 4"	417.09
4" " " " (Gal.)	18' 6"	61.97
5" " " " (plain)	21' 7"	84.59
6" " " " "	27' 6"	148.50
		$1,732.23

[fol. 1290] Page 55, 6-1-23

Kings County Lighting Company

65th Street Station, Brooklyn, New York

Small Piping

Pipe Covering:

¾" Magnesia Pipe Covering	31' 8"	$10.76
1½" " " "	48' 8"	20.44
2" " " "	6' 1"	2.67
4" " " "	269' 6"	188.65
5" " " "	19' 7"	15.66
		$238.18

[fol. 1291] Page 56, 6-1-23

Kings County Lighting Company

65th Street Station, Brooklyn, New York

Small Piping

Trenching:

½" Pipe 1' 6" Cover	5' 0"	$1 05
1" " 1' 0" "	34' 0"	4 76
1" " 1' 6" "	6' 0"	1 25
1¼" " 1' 8" "	23' 0"	4 83
1¼" " 3' 0" "	44' 0"	18 48
1½" " 1' 0" "	33' 0"	4 62
2" " 0' 4" "	8' 8"	1 21
2" " 1' 8" "	27' 8"	5 81
2" " 1' 6" "	45' 0"	9 45
2" " 3' 0" "	117' 0"	49 14
		$100 61

[fol. 1292] Page 57, 6-1-23

Kings County Lighting Company

65th Street Station, Brooklyn, New York

Small Piping

Pits and Supports:

Trench from Boiler House to #4 Holder	$148 03
Sump at end of Sewer	69 37
Sump at end of rain Line from Settling Tank	81 57
	$298 97

[fol. 1293] Page 58, 6-1-23

Kings County Lighting Company

65th Street Station, Brooklyn, New York

Large Piping

Total Cost of C. I. Pipe	$5,059 26
" " " " Fittings	2,579 95
" " " " Valves	4,673 71
	$12,312 92

[fol. 1294] Page 59, 6-1-23

Kings County Lighting Company

65th Street Station, Brooklyn, New York

Large Piping

Piping:

24" C. I. B S Pipe	82' 9"	$1,017 00
24" C. I. Flg. "	24' 2"	337 41
20" C. I. B S "	205' 6"	1,932 70
20" C. I. Flg. "	7' 6"	80 18
16" C. I. B S "	78' 0"	531 18
16" C. I. Flg. "	108' 4"	841 72

Small Piping:

6" C. I. B S Pipe	100' 0"	234 08
4" C. I. B S "	46' 0"	84 99
		$5,059 26

[fol. 1295] Page 60, 6-1-23

Kings County Lighting Company

65th Street Station, Brooklyn, New York

Large Piping

Fittings:

	Lbs.	
24" C. I. Flg. Fittings	1121	$127 68
24" C. I. B S "	4355	452 05
20" C. I. B S "	2454	249 57
20" C. I. Flg. "	2859	326 21
16" C. I. Flg. "	10819	1,209 56
16" C. I. B S "	2213	214 88
		$2,579 95

[fol. 1296] Page 61, 6-1-23

Kings County Lighting Company

65th Street Station, Brooklyn, New York

Large Piping

Valves:

24" Valves (O. S.)	2	$535 68
24" " (I. S.)	4	912 56
20" " (O. S.)	2	426 70
16" " (O. S.)	7	1,173 37
16" " (I. S.)	8	1,131 40
24" Valve Stands	3	114 00
20" " "	1	38 00
16" " "	6	304 00
16" Rack and Pinion	1	38 00
		$4,673 71

[fol. 1297] Kings County Lighting Company, Brooklyn, New York

Meters on District as of June 1, 1923

Meters in Storeroom as of June 1, 1923

[fol. 1298] Kings County Lighting Company, Brooklyn, New York

Meters on District	$527,071 23
Meters in Storeroom	24,943 24
Meter Installations	264,855 50
Total	$816,869 97

[fol. 1299] Page 62, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: Meters on District. Building: ——

Meters on District:

Item	Quantity	Total cost
3 Light Meters	1,917	$15,853 59
5 " "	45,131	406,630 31
10 " "	311	3,741 33
20 " "	1,489	33,457 83
30 " "	1,744	57,569 44
45 " "	50	2,549 50
60 " "	42	2,758 98
100 " "	25	2,807 25
150 " "	5	872 55
200 " "	2	481 32
300 " "	1	349 13
		$527,071 23

[fol. 1300] Page 63, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: Meters in Storeroom. Building: ——

Item	Quantity	Total cost
Meters in Storeroom:		
3 Light Meters	1,319	$10,908 13
5 " "	1,077	9,703 77
10 " "	13	156 39
20 " "	12	269 64
30 " "	75	2,475 75
45 " "	6	305 94
60 " "	3	197 07
100 " "	3	336 87
150 " "	2	349 02
200 " "	1	240 66
		$24,943 24

[fol. 1301] Page 64, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: Meter Installation. Building: ——

Item	Quantity	Total cost
Meter Installations:		
Meter Installations on District as of 5/1/21	40,747	$264,855 50

[fol. 1302] Kings County Lighting Company

Book Accounts as of June 1, 1923

[fol. 1303] Page 65, 6-1-23

The Bartlett Hayward Company, Baltimore, Md.

Company: Kings County Lighting Company. Works: Book Accounts. Building: ——

Item	Total cost
Book Accounts:	
Laboratory	$4,917 55
Office Furniture & Equipment	54,025 90
Stable and Garage Equipment	34,131 59
Store Equipment	4,749 72
	$97,824 76
Small Tools & Implements	4,716 01

[fol. 1304] PLAINTIFFS' EXHIBIT No. 40

Expenditures Necessary to Put the 55th Street Works and the 65th Street Station of the Kings County Lighting Company in the Condition in which They Were When New

[fol. 1305] Kings County Lighting Company

Summary

55th Street Works

Apparatus	Cost as of June 1, 1923	
Artesian Well House	$26.02	
Ash Conveying Machinery	401.61	
Boiler House Basement	51.61	
Boiler House	285.99	
Coal Conveying Machinery	3,340.52	
Engine Room	133.74	
Generator House No. 1	401.62	
Generator House No. 1 (Blower Room)	9.08	
Generator House No. 2	566.80	
Hoisting House on Dock	135.75	
Pump House at Generator House No. 2	6.41	
Purifier House	269.49	
Shops Building	6.20	
Store Room	105.27	
Tower Room	78.18	
Yard	1,000.24	
Holders	2,232.00	
Miscellaneous	1,000.00	
		$10,050.56

65th Street Station

Boiler House	$83.52	
Engine Room	6.40	
Yard	23.44	
Holders	6,294.00	
Miscellaneous	100.00	
		6,507.36
Total		16,557.92

[fol. 1306] Kings County Lighting Company—55th Street Works

Artesian Well House:

Pump, Made by Worthington Pump & Mach'y Corp., Holyoke, Mass. Size—5" x 12"—Double Cylinder. Serial #D-85718: Overhaul, Rabbit 2 Bearings, 4 New Liners	$25.52	
Motor, Made by General Electric Co., Schenectady, N. Y. H. P., 10—Speed, 1,200 R. P. M. Volts, 220—60 Cycle. Serial #5776736: 1 New Brass Cover on Oil Bearing	.50	
		$26.02

Ash Conveying Machinery:

Concrete Ash Pit, with Grizzly, Made by The U. G. I. Contracting Co.: Straighten 8 Bars in Grizzly	$11.52	
Ash Cars—3, Made by G. L. Stuebner Iron Works Size—53" x 60" x 36"—Triangular Shape. Capacity—1.2 cu. yds. Material—Steel: 3 New Bodies	116.49	
Steam Jet Ash Ejector, Made by American Steam Conveyer Corp., Chicago, Ill., Consisting of approximately 155' 0" of Horizontal and Vertical C. I. Pipe, 9¼" O. D. x 7⅞" I. D.: Replace 3 Sections of C. I. Ribbed Flanged Pipe, 9½" O. D. x 7¼" I. D. x 6' 0" long	273.60	
		401.61

[fol. 1307] Boiler House Basement:

Pump, Made by Worthington Pump & Mach'y Corp., New York, N. Y. Size—4½" x 2⅞" x 4"—Duplex. Serial #97277: New Brass Piston Rods	$27.68	
Pump, Made by Worthington Pump & Mach'y Corp., New York, N. Y. Size—7½" x 6" x 10"—Duplex. Serial #112474: 4 New Pins—Overhaul Link Motion	15.68	
Blower, Made by Clarage Mfg. Co., Kalamazoo, Mich. Size—6' 0" dia. x 18" wide. Serial #130: Paint	2.20	
Forced Draft Duct, Material—#12 gauge Steel Plate: Paint Duct	6.05	
		51.61

Boiler House:

Pump, Made by H. R. Worthington Co. Size—12" x 8½" x 12"—Duplex: Overhaul Link Motion	$18.22	

[fol. 1308] Boilers—2, Made by The Babcock & Wilcox Co., New York, N. Y. Type—Water Tube. Drums—2—36" dia. x 18' 4¾" long. Tubes—112—4" dia. x 16' 0" long. Works Nos. 5 & 6:

Works #5, Weld Crack in C. I. Front Plate, Weld Crack in 2 Fire Door Frames, and Supply 2 New Ash Door Handles	$10.00		
Works #6, Weld Cracks in 2 Front Plates	6.00		
		16.00	

Boilers—4, Made by The Babcock & Wilcox Co., New York, N. Y. Type—Water Tube. Drum—1—36" dia. x 18' 4¾" long. Tubes—56—4" dia. x 16' 0" long. Works Nos. 1, 2, 3 & 4.

Works #1, Weld Front Casting of Boiler, and Weld Fire Door	$15.00		
Works #2, Weld Front Casting of Boiler, and Weld Fire Door Frame	15.00		
Works #3, Weld Front Casting of Boiler	12.00		
Works #4, Weld Front Casting of Boiler, and Supply 1 C. I. Fire Door Liner	21.05		
		63.05	

Boilers—2, Made by The Babcock & Wilcox Co., New York, N. Y. Type—Water Tube Drums—2—42" dia. x 23' 3⅛" long. Tubes—126—4" dia. x 18' 0" long. Works Nos. 7 & 8:

Works #7, Weld 2 C. I. Side Door Frames	$6.00		
[fol. 1309] Works #8, Weld C. I. Side Door Frame	3.00		
		9.00	
Pipe Covering—199' 0"		167.47	
Pipe Repairs. Small Piping: Replace 3 Gaskets; 1 Valve, and 10' 0" of Magnesia Covering		12.25	
			285.56

Coal Conveying Machinery (Dock to Coal Shed):

Stiff Leg Derrick (Steel). Greatest Cross-Section of Leg—27" x 27". Height of Leg—36' 0". With Pivoted Swinging Boom about 45' 0" long, fixed as to spread: Mast and Gaff Repairs	$500.00	
Two Rope Clam Bucket, Made by Hayward Co., New York, N. Y. Capacity—1¼ cu. yds.: Repairs	89.57	
Hopper (Wooden, Steel Lined). Size—About 13' 0" square (at top) and 10' 0" high, overall size. Made of 3¼" Yellow Pine Plank, with a Lining of ¼" Steel Plate to within 2' 0" of top: New Hopper and Lining	640.00	

[fol. 1310] Wooden Tram Cars—4, Made by ——. Overall Size—8' 0" x 5' 0" x 3' 0", approximately, or 120 cu. ft. Capacity—Approximately 1¼ Tons of Coke:

1 Car, Reline 2 Ends—¼" Steel	$22.95		
2 Cars, Reline—¼" Steel	137.00		
1 Car, 1 New Plank, 8' 0" x 8" x 1½"	.87		
		160.82	

Double Drum Steam Hoisting Engine, Made for John A. Meade Co., New York, N. Y., by Lawson & Morrison Mfg. Co., Boston, Mass. Size—10" x 12". Serial #12894: New Main Gear and Pinion: Overhauling and Rebabbitt Bearings	496.87	
Boiler, Made by Fitzgibbon & Co., Oswego, N. Y. Vertical Drum—66" dia. x 8' 10" long. Horizontal Drum—60" dia. x 10' 6" long. Serial #6116: Welding and Overhauling	109.00	
Stack (Steel). Size—29" dia. x 56' 0" high. Made of ¼" Plate with 4½" Steel Guy Ropes: New Stack		
[fol. 1311] Steam Engine, Made by B. F. Sturtevant Co., Boston, Mass. Size—13" dia. x 12" stroke (Engine has been rebored). Type—Horizontal, with Automatic Fly Wheel Governor: Adjust Main Bearings and Eccentric, and Repack Piston Rod and Valve Stem.....	20.60	
Differential Grooved Pulley Driving Mechanism With Split Steel Pulley, 46½" dia. x 9½" face Driven by Belt from Engine: Overhaul—New Liners in Bearings—New bolts in Bearings of Drive Shaft.....	28.76	
Coal Conveying Machinery (Coal Shed to Boiler and Generator House):		
Portable Steel Transfer Chute. Size—20½" wide x 16½" deep x 17' 0" long. Made of ¼" Plate. Mounted on 2 Wheels, 48" dia., Running on a fixed axle: New Plate in Bottom and New Plate on Side	26.47	
Traveling Hopper and Reciprocating Feeder Carriage, Made by Robins Conveying Belt Co., New York, N. Y. Size—overall, 11' 6" long x 4" wide x 3' 11" high from track to top of hopper: Adjust Eccentric Strap and Intermediate Shaft	11.68	
Steel Hopper (For receiving material from Conveyor "A" and delivering it to Conveyor "B"): Repairs to Chute	11.01	
[fol. 1312] Conveyor "C", Made by Robins Conveying Belt Co., New York, N. Y.: New Circular Guard for Gears (Steel)	20.80	
Steel Chute (For Fuel to Course Tank): Repairs to Chute	59.18	
Steel Chute (For delivering Fuel from Course Tank to Williamson Sets). Size—16" dia. x 38' 0" long: Repairs to Chute	30.60	
Steel Chute (For Fuel to Trommel): Repairs to Chute	4.59	
Conveyor. Size—16½" wide x 26' 0" long. Use—To elevate Fuel from Yard Level to Conveyor over Bin in Boiler House:		
New Grating	$57.85	
5 New Plates on Conveyor	75.02	
		132.87
Horizontal Conveyor. Material—Steel. Size—22½" wide x 29' 3" long between centers: Replace 1 Flight and 2 Cast Iron Wheels	7.00	
[fol. 1313] Steel Chute (Leading from 100 Ton Bin over Boiler #7 to Chain Grate Stoker): Repair Plate	23.73	
		3,340.55

Engine Room:

Exhausters—2, Made by P. H. & F. M. Roots Co., Connersville, Ind. Type—Vertical, Side Discharge. Serial Nos. 25648 & 25649: Repack 8 Glands		$19.84	
Engines—2, Made by Oil City Boiler Works, Oil City, Pa. Size—7" x 9". Serial Nos. 7367 & 7369: Overhaul		17.52	
Pipe Covering—10' 0"		42.65	
Pipe Repairs:			
Small Piping: Repack 1 Valve; Replace 1 Gasket; 2 Fittings; 6' 0" of Pipe, and 16' 0" of Magnesia Covering	$44.20		
Large Piping: Replace 1 Gasket; and Repair 1 B. S. Joint	9.53		
		53.73	
			133.74
[fol. 1314] Generator House No. 1:			
Water Gas Sets—3, Made by The U. G. I. Contracting Co., Philadelphia, Pa. 3 Generators, 8' 6" dia. x 15' 9" high, 3 Carburetters, 8' 0" dia. x 15' 9" high, 3 Superheaters, 8' 0" dia. x 22' 0" high, 3 Wash Boxes, 6' 0" dia. x 4' 0" high, 3 Superheater Stacks. Works Nos. 1, 2 & 3:			
Generator #1: Weld 2 Clean-out Door Frames, and Supply New Gasket on Wash Box and New Cone for Purge Stack	$22.42		
Generator #2: Weld Clean-out Door Frames, and Supply New Gasket on Wash Box	52.46		
Generator #3: Replace Door Handle, and Supply New Gasket on Wash Box	6.57		
		$81.45	
Pump, Made by Worthington Pump & Mach'y Corp., New York, N. Y. Size—3½" x 2½" x 4". Type—Duplex. Serial #670627: 1 New Valve Crank Shaft, and Brass Rods		29.52	
Charging Wagons—2, Made by—(Unknown). Size—2' 0" x 5' 0" x 2' 8" deep, gunnel shape. Wheels—2—43" dia.: 2 New Top Pieces on Gunnel		9.18	
[fol. 1315] Pump, Made by M. T. Davidson Co., Brooklyn, N. Y. Size—8" x 10" x 12". Serial #19858: Overhaul—2 Pins on Valve Connecting Rod		13.68	
Pumps—2, Made by Worthington Pump & Machinery Corp., New York, N. Y. Size—6" x 4" x 6". Serial Nos. 155958 & 155959: Overhaul—6 Pins for Valve Motion—4 New Cross Shafts		53.04	
Water Tanks—2, Size—4' 6" x 3' 1" x 2' 0" deep. Material—Steel, ¼" thick: Paint		1.34	
Water Tank. Size—2' 6" dia. x 7' 6" high. Material—¼" Steel: Paint		1.40	
Track and Feed Conductor. 4 Feed Conductor 1¼" x 1¼" x ¼", T-Rail 69' 6" long: 5 New Porcelain Insulators		5.00	
[fol. 1316] Pipe Covering—14' 4"		164.70	

Pipe Repairs:

Small Piping: Replace 1 Valve; and 10′ 0″ of Magnesia Covering	$10.50		
Large Piping: Replace 4 Gaskets, and Repair 5 B. S. Joints	31.81		
		42.31	
			401.62

Blower Room at Generator House No. 1:

Blower and Turbine Unit, Made by B. F. Sturtevant Co., Boston, Mass. H. P.—250—Type E-6. Speed—2,100 R. P. M. Serial ⌀59446: New Gasket on Cover of Automatic Governor Valve—Overhaul Governor			9.08

Generator House No. 2:

Water Gas Sets—2, Made by The Bartlett Hayward Co., Baltimore, Md. 2 Generators, 12′ 0″ dia. x 22′ 0″ high, 2 Carburetters, 14′ 0″ dia. x 24″ 0′ high, 2 Superheaters, 14′ 0″ dia. x 24′ 0″ high, 2 Wash Boxes, 7′ 0″ dia. x 6′ 0″ high, 2 Seal Pots, 3′ 0″ dia. x 4′ 0″ high, 2 Superheater Stacks. Works Nos. 4 & 5:

[fol. 1317] Works ⌀4: New Hydrogen Nozzle, 2′ 6″ dia. x 1′ 0″ long	$78.92		
Weld Crack in Clean-out Door	3.00		
New Cone for Purge Stack	61.28		
2 Threaded Bushings, 2″ dia. x 3″ long, for Charging Door —1 screw, 1¼″ dia. x 7½″ long, with 10″ x ⅝″ Handle	2.66		
Works ⌀5: New Cone for Purge Stack	61.28		
New Bolt on Charging Door, ¾″ x 2½″ long	.15		
		207.29	
Blower, Made by B. F. Sturtevant Co., Boston, Mass. Serial ⌀18960.			
Turbine, Made by B. F. Sturtevant Co., Boston, Mass. H. P.—170. Speed—2,250 R. P. M. Serial ⌀1369: Overhaul Blower and Turbine Unit		23.36	
Blower, Made by B. F. Sturtevant Co., Boston, Mass. Size—Impeller, 33″ dia. (approx.), Cutlet, 20″ x 15″. Serial ⌀29453.			
Turbine, made by Terry Steam Turbine Co., Hartford, Conn. H. P.—170. Speed—2,250 R. P. M. Serial ⌀1182: Overhaul Blower and Turbine Unit		23.36	
[fol. 1318] Charging Wagon. Size—3′ 1″ x 6′ 6″ x 10″—4 Wheels: 1 New Wheel, 16″ dia. x 2½″ Head (steel) with C. I. Hub, 6″ dia. and ¾″ dia. Steel Spokes—and Repair Wagon		9.47	
Water Gas Sets—2, Made by the U. G. I. Contracting Co., Philadelphia, Pa. Size—Generators, 11′ 0″ dia. x 17′ 4″ high; Carburetters, 10′ 6″ dia. x 17′ 4″ high; Superheaters, 10′ 6″ dia. x 24′ 0″ high; Wash Boxes, 10′ 0″ dia. x 5′ 4″ high.			

Works Nos. 6 & 7:

Works #6: Paint	$33.05		
New Gasket, 19" x 27", on 1 Clean-out Door	2.80		
New Gasket, 14" dia., on Ash Opening at bottom of Generator	2.16		
Works #7: Paint	33.05		
New Gasket, 14" dia., on Ash Door in bottom of Generator	2.16		
		73.22	
Turbine, Made by R. F. Sturtevant Co., Boston, Mass. Serial #63631: Repack Shaft Glands and Governor Valve Stem		9.24	
Waste Heat Boilers—4, Made by The U. G. I. Contracting Co., Philadelphia, Pa. Size—7' 0" dia. x 28" long. No. of Tubes—716—4" dia. x 18' 0" long. Works Nos. 10, 11, 12 & 13:			
[fol. 1319] Works Nos. 10, 11 & 12: Replace Seat in Safety Valves	$15.00		
Paint 4 Boilers	31.38		
		46.38	
Motor and Controller, Made by Shepard Crane & Hoist Co., Montour Falls, N. Y. Serial Nos.—Motor, 12195; Controller, 11250: Furnish and Apply 2 Porcelain Insulators for Conduit Outlets		4.00	
Pipe Covering—97' 0"		108.03	
Pipe Repairs:			
Small Piping: Repack 4 Valves; Replace 2 Gaskets; 3 Valves; 1 Fitting, and 30' 0" of Magnesia Covering	$56.37		
Large Piping: Repack 2 Valves, and Replace 1 Gasket	6.08		
		62.45	
			566.80
Hoisting House on Dock:			
Pipe Covering—79' 0"		$66.79	
Pipe Repairs. Small Piping: Repack 7 Valves; Replace 2 Gaskets; 4 Fittings; 26' 0" of Pipe, and 46' 6" of Magnesia Covering		68.96	
			135.75
[fol. 1320] Pump House at Generator House No. 2:			
Pump, Made by Union Steam Pump Co. Size—3" x 3" x 3"—Simplex: New Valve Lever Arm, Pin and Bracket		$6.20	
Tank. Size—1' 0" dia. x 2' 9" long. Material—Steel: Paint		.21	
			6.41
Purifier House:			
Purifier Boxes—4, Made by The Bartlett Hayward Co., Baltimore, Md. Size—24' 0" x 16' 0" x 7' 6": New Lute required for Boxes		$160.00	
Purifier Boxes—4, Made by The Bartlett Hayward Co., Baltimore, Md. Size—20' 0" x 26' 8" x 12' 0": 6 Bar Handles, 2" x ⅝" x 36"		15.33	

Oxide Wagon, Made by G. L. Stuebner Iron Works, Long Island City, N. Y. Size—30" x 54" x 24" deep. Material—Steel: New Plates, 29" x 31" x ¼" and 31" x 58" x ¼"		14.38	
Pipe Covering—79' 0"		62.52	
[fol. 1321] Pipe Repairs:			
Small Piping: Repack 4 Valves	$1.28		
Large Piping: Replace 4 Gaskets and 1 B. S. Joint	15.98		
		17.26	
			269.49
Shops Building:			
Dust Collectors and Shaving Blower Piping. Piping Material—Galvanized Sheet Iron Pipe Size—12" dia. x 27' 0" and 65' 0" in yard: Paint		$3.47	
Dust Collector, Made by B. F. Sturtevant Co., Boston, Mass. Size—Large dia. 50", Small dia. 10", Height 5' 0": Paint		1.38	
Dust Collector, Made by B. F. Sturtevant Co., Boston, Mass. Size—Large dia. 5' 2", Small dia. 10", Height 4' 3½": Paint		1.35	
			6.20
Store Room:			
Pipe Covering—80' 0"		$104.05	
Pipe Repairs. Small Piping: Replace 1 Fitting		1.22	
			105.27
[fol. 1322] Tower Room:			
Pump. Made by M. T. Davidson Co., New York, N. Y. Size, 5" x 4" x 8". Serial #9850: Overhaul—2 New Pins		$13.68	
Tank. Size, 15' 1" dia. x 20' 0" high (open top). Paint		11.36	
Pipe Covering—34' 0"		20.90	
Pipe Repairs. Small Piping. Repack 3 Valves; Replace 2 Valves; 2' 0" of Pipe, and 23' 0" of Magnesia Covering		32.34	
			78.18
Yard:			
Shaving Scrubber. Made by The Bartlett Hayward Co., Baltimore, Md. Size, 12' 0" dia. x 25' 0" high. Material—Steel. Caulk Rivets—3 New Doors		$26.72	
Cooling Coils. Made by The U. G. I. Contracting Co., Philadelphia, Pa. Size—420 pieces 2" pipe, 20' 0" long, with 420 Extra Heavy Fittings. Replace 1,854' 0" of 1¼" x ¼" Steel, with Clips every 2' 0"		140.51	
Salt Water Condenser. Made by The Bartlett Hayward Co., Baltimore, Md. Size—33' 11" x 9' 3½" x 15' 9¾". 30 New Tubes		315.30	
[fol. 1323] Oil Tank. Made by The Bartlett Hayward Co., Baltimore, Md. Size—35' 0" dia. x 36' 0" high. Caulk 65' 0"	$11.60		
Paint	58.94		
		70.54	
Oil Tank. Made by The Bartlett Hayward Co., Baltimore, Md. Size—54' 0" dia. x 31' 0" high. Caulk 175' 0"	29.00		
Paint	90.55		
		119.55	

Scale. Made by Fairbanks Scale Co., New York, N. Y. Capacity—10 Tons. Size—8' 4" x 14". Replace 100%		268.15	
Hot Scrubber. Size—12' 0" dia. x 60' 0". Caulk 4' 0" of Seam		2.90	
Pipe Covering—6' 0"		5.10	
Pipe Repairs. Small Piping. Repack 2 Valves; Replace 1 Gasket; 2 Fittings, and 10' 0" of Magnesia Covering	$32.03		
Large Piping. Replace 2 Gaskets, and Repair 1 B. S. Joint	19.44		
		51.47	
			1,000.24
[fol. 1324] Holders:			
Holder. Made by The Bartlett Hayward Co., Baltimore, Md. Capacity—100,000 cu. ft. Steel Tank —62' 0" dia. 21' 0" high. Lifts—2. Works #2. Caulk Leaks in Seams of Outer Shell—Clean Tank and Paint Complete Structure		$1,736.00	
Relief Holder. Made by The Bartlett Hoyward Co., Baltimore, Md. Capacity—100,000 cu. ft. Steel Tank, 62' 6" dia. x 21' 0" high. Lifts—2. Works #1. Repair Guide Rail—Caulk Leaks—Paint		496.00	
			2,232.00
Miscellaneous:			
General Inspection of Running Machinery, Gauges, etc.			1,000.06
Total			$10,050.56

[fol. 1325] Kings County Lighting Company—65th Street Station

Boiler House:			
Boiler. Made by P. Donohue, Brooklyn, N. Y. Tubes—54- 4" dia. x 16' 0" long. Fuel—Coal. Weld 2 Cracks in C. I. Front		$12.00	
Stack. Size—3' 0" dia. x 62' 6" high. Paint		12.95	
Pipe Covering—58' 0"		40.92	
Pipe Repairs. Small Piping. Replace 1 Gasket; 1 Valve; 1 Fitting, and 20' 0" of Magnesia Covering		17.65	
			83.52
Engine Room:			
Pipe Repairs. Small Piping. Replace 1 Fitting, and 10' 0" of Magnesia Covering			6.40
Yard:			
Pipe Covering—6' 0"		5.10	
[fols. 1326 and 1327] Pipe Repairs. Small Piping. Repack 3 Valves; Replace 2 Gaskets; 2 Fittings; 3' 0" of Pipe, and 3' 0" of Magnesia Covering		18.34	
			23.44
Holders:			
Holder. Made by The Bartlett Hayward Co., Baltimore, Md. Capacity—2,000,000 cu. ft. Tank—Steel, 144' 0" dia. x 36' 3" high. Lifts—4. Works #4. New Gallery Planking—49 New Shafts and Bushing—Clean and Paint		3,025.00	

Holder. Made by The Bartlett Hayward Co., Baltimore, Md. Capacity—500,000 cu. ft. Tank—Steel, 99' 0" x 26' 4". Lifts—3. Works #3. Repair Outer Shell—27 New Shafts and Bushings—Clean and Paint	3,269.00	
Miscellaneous:		6,294.00
General Inspection of Running Machinery, Gauges, etc.		100.00
Total		$6,507.36

[fol. 1328] PLAINTIFFS' EXHIBIT No. 42

Kings County Lighting Company

Operating Expense Year Ended December 31, 1923

	Amount	Cost per M. C. F. Sold
Production Expenses	$892,501 13	.4973
Distributing Expense	143,636 40	.0800
Street Lighting Expense	915 94	.0005
Commercial Expense	124,461 36	.0693
Promotion Expense	49,423 58	.0275
General Expense	156,651 13	.0872
Plant Withdrawn from Service	53,990 21	.0300
Taxes	209,290 63	.1167
Uncollectible Bills	9,409 11	.0053
Total Operating Expenses	$1,640,279 49	.9138

[fol. 1329] Kings County Lighting Company

Detailed Operating Expenses Year Ended December 31, 1923

Production Expenses:	Amount	Cost per M. C. F. Made
Works Superintendence	$20,543 66	.0104
Boiler House Labor	26,990 11	.0136
Generator House Labor	41,966 79	.0212
Purifier House Labor	2,552 26	.0013
Miscellaneous Labor at Works	15,325 55	.0078
Total Gas Making Labor	107,378 37	.0543

	Amount	Cost per M. C. F. Sold
Boiler Fuel	79,017 45	0400
Water	3,398 51	0017
Water Gas Oil	291,919 01	1476
Generator Fuel	301 814 14	1526
Purification Supplies	6,954 40	0035
Miscellaneous Works Expense	25,698 04	0130
Repairs Works & Station Structures	17,221 45	0088
Repairs Furnaces, Boilers and Accessories	11,636 24	0059
Repairs Steam Engine	1,344 62	0007
Repairs Gas Engine	2,319 91	0012
Repairs Miscellaneous Power Plant Equipment	7,973 41	0040
Repairs Water Gas Sets and Accessories	14,365 07	0073
Repairs Purification Apparatus	1,016 44	0005
Repairs Works Tools	1,221 02	0006
Repairs Holders	7,371 56	0037
Repairs Miscellaneous Equipment	5,463 14	0027
Gas Storage	22,569 47	0114
Total Production Costs	908,682 25	4595
Residual Credits	16,181 12*	0082*
Net Station Costs	892,501 13	4513

Gas Made M. C. F. 1,977,410.
Gas Sold M. C. F. 1,794,970.

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[fol. 1330] Distribution Expenses:

	Amount	Cost per M. C. F. Sold
Transmission Pumping	$1,932 75	0011
Distribution Superintendence	10,584 03	0059
Distribution Supplies & Expenses	8,371 84	0047
Meter and Installation Work	26,179 25	0146
Work on Consumers' Premises	22,829 06	0127
Repairs Mains	28,804 98	0160
Repairs Services	12,898 98	0072
Repairs Meters	28,913 07	0161
Repairs General Structures	535 30	0003
Repairs Distribution Tools	2,419 89	0013
Repairs Appliances	167 25	0001
Total	143,636 40	0800

Street Lighting Expenses:

Street Lamp Repairs	915 94	0005
Total	915 94	0005

Commercial Expenses:

General Labor	39,754 36	0221
Accounting	26,257 49	0146
Contracts	4,088 53	0023
Collecting	27,819 55	0155
Meter Reading	13,103 08	0074
Supplies & Expenses	13,432 10	0074
Total	124,461 36	0693

Promotion Expenses:

Office Expenses	38,514 60	0214
Advertising Sundries	10,909 98	0061
Total	49,423 58	0275

[fol. 1331] General Expenses:

	Amount	Cost per M. C. F. Sold
Salaries and Expenses—General Officers	$32,758 50	0183
Salaries and Expenses—General Office Clerks	39,992 88	0223
General Office Supplies and Expenses	8,894 74	0049
General Law Expenses	16,648 34	0093
Miscellaneous General Expenses	27,878 16	0155
Insurance	17,587 34	0098
Accidents and Damages	2,746 53	0015
General Stationery & Printing	16,142 39	0090
Undistributed Adjustments	118 43	0000
Duplicate Charge—Credit	6,115 98*	0034*
Total	156,651 13	0872
Plant Withdrawn from Service	53,990 21	0300
Taxes:		
Real Estate	70,769 27	0394
Special Franchise	53,512 20	0298
State Gross Earnings	12,088 34	0067
Capital Stock Tax	1,906 99	0011
Taxes on Dividends	2,690 22	0016
Federal Income Tax	68,303 61	0381
Total	209,290 63	1167
Uncollectible Bills	9,409 11	0053

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[fol. 1332]

PLAINTIFF'S EXHIBIT No. 49

Kings County Lighting Company

Cost of Production & Distribution and the Result of Operations for the Year Ended December 31, 1923

Cost of Production:	Quantity	Price	Amount	Cost per M c. f. made	Material per M c. f. made
Generator Fuel	29,995,141 Tons	10.062 Ton	$301,814.14	$.1526	33.98 lb.
Boiler Fuel Solid	4,626,106 "	9.295 "	43,012.28	.0218	5.24 "
Boiler Fuel Water Gas Tar	505,550 Gal.	.071219 Gal.	36,005.17	.0182	.25 Gal.
Total Fuel			380,831.59	.1926	
Gas Oil	5,604,166 Gal.	.052089 Gal.	291,919.01	.1476	2.83 Gal.
Water			3,398.51	.0017	
Iron Oxide	21,080 Bu.	.30416	6,411.90	.0032	
Sundries Supplies			542.50	.0003	
Total Material			683,103.51	.3454	
Residuals—Water Gas Tar Produced	272,046 Gal.	.051737 Gal.	14,075.10*	.0071*	
Drip Oil			2,106.02*	.0011*	
Total			16,181.12*	.0082*	
Net Material			666,922.39	.3372	
Gas Making Labor			107,378.37	.0543	
Total Labor & Material			774,300.76	.3915	

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Cost of Production & Distribution—continued

	Amount	Cost per M c. f. made	Material per M c. f. made
Repair Labor and Material	69,932.86	.0354	.....
Miscellaneous Works Expense	25,698.04	.0130	.....
Gas Storage	22,569.47	.0114	.....
Total Cost of Production—Forward 1,977,410,000 Cu. Ft.	$892,501.13	$.4513	.....

Decrease Gas on Hand	96,000 Cu. Ft.	
Used by Company	4,704,600	
Gas Sales to Consumers	1,794,969,870	
Total	1,799,578,470	
"Unaccounted for" due to condensation, leakage, slow meters, etc.	177,831,530 (8.99%)	
	1,977,410,000	

[fol. 1333]	Total Cost of Production—Forward—Cost Per M Cubic Feet Sold	$892,501.13	.4973

Cost of Distribution and Other Expenses:

	Amount	Cost per M c. f. sold
Transmission Pumping	1,932.75	.0011
Distribution Superintendence	10,584.03	.0059
Distribution Supplies & Expenses	8,371.84	.0047
Meter & Installation Work	26,179.25	.0146
Work on Consumers' Premises	22,629.06	.0127
Repair Mains	28,804.98	.0160
Repair Services	12,898.98	.0072
Repair Meters	28,913.07	.0161
Repairs Appliances	167.25	.0001
Repairs General Structures	535.30	.0003
Repairs Distribution Tools	2,419.89	.0013
Street Lighting Expenses	915.94	.0005

Commercial Expenses			173,884.94	.0966
Salaries & Expenses General Office			72,751.18	.0406
General Law Expenses			16,648.34	.0093
Miscellaneous General Expenses			36,772.90	.0204
Insurance			17,587.34	.0098
Accidents & Damages			2,746.53	.0015
General Stationery			16,142.39	.0090
Undistributed Adjustments			118.43	.0000
Duplicate Charge—Credits			6,116.98*	.0034*
Uncollectible Bills			9,469.11	.0053
Total Cost of Distribution, etc			484,497.52	.2698
Plant withdrawn from service			53,990.21	.0300
Taxes:				
Real Estate Land	997,000.00			
Improvements	1,872,000.00			
Total		78,610.00		
Less Amount Charged to Non-operating Tax		7,821.33		
			70,789.27	.0394
Special Franchise Tax	1,953,000.00		53,512.20	.0298
State Gross Earnings Tax			12,088.34	.0067
Capital Stock Tax			1,906.99	.0011
Taxes on Dividends			2,630.22	.0016
Federal Income Tax			68,303.61	.0381
Total Tax			209,290.63	.1167
Total Cost of Gas Sold			$1,640,279.49	.9138

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[fol. 1334] PLAINTIFF'S EXHIBIT No. 52

Kings County Lighting Company

Analysis of Repairs, Year 1923

W. O.		Labor	Material	Contract	Total
30	Repairs to Works & Station Structures	$6,218.41	$2,243.68	$8,759.36	$17,221.45
310	Repairs to Furnaces, Boilers & Acc.	7,902.79	2,976.42	757.03	11,636.24
311	Repairs to Steam Engine	527.03	265.49	552.10	1,344.62
312	Repairs to Gas Engine	6.77	9.64	2,303.50	2,319.91
313	Repairs to Misc. P. P. Equipment	4,910.36	2,162.61	900.44	7,973.41
321	Repairs to Water Gas Sets & Acc.	4,492.03	8,609.77	1,263.27	14,365.07
322	Repairs to Purification Apparatus	306.30	580.21	129.93	1,016.44
323	Repairs to Holders	251.44	104.45	7,015.67	7,371.56
324	Repairs to Misc. Equipment	1,373.14	2,051.62	2,038.38	5,463.14
33	Repairs to Works Tools	310.28	768.83	141.91	1,221.02
43	Repairs to Mains	1,239.02	70.78	.....	1,309.80
49	Repairs to Mains	23,577.73	2,364.60	1,552.85	27,495.18
50	Repairs to Services	10,265.33	2,482.14	151.51	12,898.98
510	Repairs to Meters	19,432.17	9,480.90	....	28,913.07
52	Repairs to Distribution Tools	457.55	1,829.53	132.81	2,419.89
53	Repairs to Appliances	11.52	155.73	.....	167.25
54	Repairs to Distribution Building	310.68	81.17	143.45	535.30
580	Repairs to Street Lamps	729.04	102.21*	15.75	642.58
581	Repairs to Street Lamps	631.07	359.91*	2.20	273.36
		$82,952.66	$35,775.45	$25,860.16	$144,588.27

[*Red in copy.]

[fol. 1335] PLAINTIFF'S EXHIBIT No. 53

Kings County Lighting Company

Net Increase of Meters on District by Months

Months	1921	1922	1923
January	605	339	385
February	588	258	244
March	167	298	355
April	256	307	393
May	191	371	517
June	293	549	568
July	199	386	635
August	218	574	794
September	340	515	684
October	359	682	1055
November	419	705	753
December	392	681	703
Totals	4029	5665	7086

[fol. 1336] PLAINTIFF'S EXHIBIT No. 54

Kings County Lighting Company

Average Monthly Working Capital, Year, 1923

Accounts Receivable	$303,988 60
Material and Supplies	219,233 80
Cash	195,142 20
Gas supplied but not billed	125,000 00
General Storeroom Suspense	12,162 40
Coal Handling Suspense	649 68
Prepaid Insurance	5,837 41
Prepaid Taxes, etc	5,358 38
Deposits—Public Authorities Performance of Contracts	1,000 00
	$868,372 47

[fol. 1338] PLAINTIFF'S EXHIBIT No. 59

Kings County Lighting Company

Capital Expenditures, Year 1924, under Contract and Estimated

9,065 Meters	$88,873 71
Gas Holder	450,000 00
Booster Plant (Amount needed to complete Contract)	148,674 96
Office Building	550,000 00
Driving Line	150,000 00
Mains—29,869 feet	162,092 95
Services—154,816 feet	130,819 52
	$1,670,461 14

[fol. 1338] PLAINTIFF'S EXHIBIT No. 59

AT A MEETING OF THE PUBLIC SERVICE COMMISSION, STATE OF NEW YORK, HELD IN THE CITY OF NEW YORK ON THE 30TH DAY OF AUGUST, 1922

Present: Hon. William A. Prendergast, Chairman; Hon. William R. Pooley, Hon. Charles van Voorhis, Hon. Oliver C. Semple, Hon. Charles G. Blakeslee, Commissioners.

Case No. 108

In the Matter of Standards of Purity, Lighting Power, and Heating Power of Gas and Standards of Measurement thereof, in the City of New York and Suburban Territory

Order Fixing Standards of Purity, Power, and Pressure

The matter of the standards of purity, illuminating power, and heating power of gas, and standards for measurement thereof, in the City of New York and suburban territory being before the Commission for determination; and hearings having been held thereon by the Commission, upon its own motion, pursuant to the statute, on the 6th, 7th, 14th, 17th, 24th, 27th and 28th days of February, 1922,

the 3rd, 6th, 10th, 13th, 14th, 27th, 28th and 30th days of March, 1922, and the 26th day of May, 1922; the following having appeared herein: Ledyard P. Hale, Esq., Counsel for the Public Service Commission (Colloy W. Bell, Esq., Special Assistant Counsel); The City of New York by John P. O'Brien, Esq., Corporation Counsel and M. M. Fertig, Esq., A. Judson Hyatt, Esq., and Harry Hertzoff, Esq., Assistant Corporation Counsel; The President of the Borough of Richmond by T. S. Oxholm, Esq., The Merchants Association of the City of New York by F. B. DeBorard, Esq., Certain Industrial Consumers by John F. Thatcher, Esq., City Parliament of Community Councils by Jabez E. Dunningham, Executive Secretary; Representatives of various Community Associations and Individual consumers; Brooklyn Union Gas Company; The Newtown Gas Company, Flatbush Gas Company, Woodhaven Gas Light Company, Jamaica Gas Light Company, and Richmond Hill and Queens County Gas Light Company by Cullen and Dykman (Jackson A. Dykman, Esq., and Edward J. Crummey, Esq., of Counsel); Westchester Lighting Company by F. A. Stratton, President; Kings County Lighting Company by Samuel F. Moran, Esq.; New York and Richmond Gas Company by Frank H. Innes, Esq., and Jacob H. Goetz, Esq.; The Consolidated Gas Company of New York, The Astoria Light, Heat and Power Company, The New Amsterdam Gas Company, The East River Gas Company of Long Island City, Central Union Gas Company, Northern Union Gas Company; The Standard Gas Light Company of the City of New York; The Mutual Gas Light Company, Bronx Gas and Electric Company, by Whitman, Ottinger and Ransom (William L. Ransom, Esq., and Jacob [fol. 1339] H. Goetz, Esq., of Counsel); Queens Borough Gas and Electric Company and Brooklyn Borough Gas Company by Whitman, Ottinger and Ransom (William L. Ransom, Esq., Jacob H. Goetz, Esq., and Colley E. Williams, Esq., of Counsel; and the Commission being now of the opinion that the standard of 22 candle power, prescribed by Chapter 736 of the Laws of 1905 and Chapter 125 of the Laws of 1906, as amended, is unreasonable, uneconomical, and improper, and that the continuance of such a standard would not be in the public interest, and that a standard of quality and measurement, based upon the heat-

ing power of gas, as hereinafter more particularly specified, should not be fixed by the Commission, it is hereby

Ordered:

1. That on and after October 1, 1922, each gas corporation supplying manufactured gas in the Boroughs of Manhattan, Brooklyn, The Bronx, Queens and Richmond, comprising the City of New York, and in the franchise territory of the Queens Borough Gas and Electric Company, in the County of Nassau, shall in lieu of the existing standard or standards, furnish to its consumers a quality of gas which shall comply with the following requirements:

(a) Containing not more than 15% inert constituents.

(b) Containing not more than a trace of sulphurretted hydrogen to be determined as hereinafter provided.

(c) Containing not more than 30 grains of sulphur, nor more than 5 grains of ammonia in each 100 cubic feet of gas, corrected to a temperature of 60 degrees Fahrenheit and a pressure corresponding to a thirty inch (30") column of mercury.

(d) Under conditions of complete combustion and corrected as in paragraph "(c)," the gas furnished shall have a total heating value on a monthly average (made up of the average of the daily averages) of not less than 537 British Thermal units per cubic foot, and a daily average (made up of the average of the daily averages) of not less than 525 British thermal units per cubic foot on any three consecutive calendar days in any month; the daily average for any such day to be ascertained and computed by averaging the results of not less than three official tests taken, at intervals of not less than three hours, on each such day, pursuant to the provisions of this Order, each of which tests shall be communicated to the corporation within twelve hours of its completion. The heating value of the gas furnished during a calendar month shall not, on any three consecutive calendar days have a maximum variation upward of more than five per cent of the monthly average heating value.

[fol. 1340] II. (a) That each corporation shall maintain as measured at the consumers' end of the company's service pipe to any consumer, a minimum pressure of gas which

shall in no case be less than two inches (2″) water column on two (2) consecutive days.

(b) The maximum pressure of gas furnished by each such corporation, as measured at the consumers' end of the company's service pipe to any consumer, shall not exceed six inches (6″) water column on two (2) consecutive days, unless the consumer or consumers supplied from such service pipe have made a specific request in writing for a pressure of six inches (6″) or in excess of six inches (6″) water column. This provision shall not be construed as imposing any obligation on the company to furnish gas at a pressure of six inches (6″) water column or more.

(c) The maximum daily pressure variation, as measured at the consumers' end of a company's service pipe to any consumer shall not exceed two inches (2″) water column on two (2) consecutive days.

(d) The maximum monetary pressure variation (defined as a constant increase or decrease of pressure, practically instantaneous and not recurring with regular periodicity or frequency, not unnecessarily with the same amplitude at the consumers' end of the company's service pipe to any consumer shall not exceed a total range of eight-tenths inches (8 10″) water column on two (2) consecutive days.

(e) The maximum pulsating pressure variation (defined as a constant increase or decrease of pressure of short duration practically instantaneous and recurring with regular periodicity or frequency and usually with approximately the same amplitude) at the consumers' end of the company's service pipe shall not exceed a total range of five-tenths inches (5 10″) water column on two (2) consecutive days.

III. That each such corporation engaged in the manufacture or distribution of gas shall, subject to the approval of the Commission, within sixty (60) days from the effective date of this Order, provide and maintain a testing station or stations at a point or points distant at least one (1) mile from the place of manufacture or distribution. Gas Testing Stations shall be provided with all suitable apparatus, equipment, reagents and facilities for testing and analyzing

gas, in accordance with the provisions of this Order, and shall comprise the following with all necessary accessories and appurtenances:

(a) An approved type of gas calorimeter set.

(b) An approved type of apparatus for the determination of and test for sulphuretted hydrogen.

(c) An approved type of apparatus for the determination of total sulphur and ammonia in gas.

(d) An approved type of apparatus for determining the composition of the gas.

(e) An approved type of recording pressure.

[fol. 1341] Station and station equipment shall be kept in good condition, ready for use at all reasonable hours, and access shall be allowed to representatives of this Commission for the purpose of making gas tests and get analysese at any time.

IV. That each corporation shall make daily tests of the calorific value of the gas and its sulphurreted hydrogen content at the approved testing station or stations.

V. That each such corporation at its approved testing station or stations shall make analyses of its gas and determinations of the total sulphur ammonia content at least once each month and when otherwise required by this Commission.

VI. That standard forms approved by this Commission shall be used for recording all tests and analyses made by such corporations and shall be retained as permanent chronological records in the station where made for a period of two (2) years from the recording date.

VII. (a) That commencing October 1, 1922, each such gas corporation, upon the request of a consumer using open-flame burners for illumination, shall furnish, and install, if required, mantle burners to replace such open-flame burners, such mantle burners to be so furnished and if, requested, so installed at cost, for a period of eight (8) months from October 1, 1922, and that all necessary adjustments to appliances shall be done free of charge to the user of such appliances.

(b) That the change from the existing candle power standard to the standard fixed in paragraph 1 herein shall be in effect on and after October 1, 1922, as hereinbefore more particularly provided; and that each such gas corporation shall make such changes in its practices, methods, appliances property, service and standards as may be deemed necessary and proper to effect the change from its present standard to the standard fixed as effective on and after October 1, 1922.

Hydrogen Sulphide Determination

VII. (a) That a gas shall be considered to contain no trace of hydrogen sulphide when tested as follows: If a strip of white paper moistened with solution containing 5% by weight of acetate of lead and exposed to a current of gas flowing at a rate of about five cubic feet per hour, does not after 30 seconds of such exposure become discolored, the gas shall be considered to contain no hydrogen sulphide.

General Provisions

IX. (a) That the standards of gas herein provided for shall supersede the standard for the illuminating power of gas and any other existing standards which may heretofore have been fixed by generad or special statute or by an Order of a Public Service Commission.

[fol. 1342] (b) The monthly average calorific value of the gas in any calendar month shall be a computation of the daily averages of all calorific tests made during the monthly employees of this Commission.

(c) All gas which must of necessity be distributed under a pressure exceeding 5 pounds per square inch shall be tested before compression. In cases where various gas systems are interconnected, the Commission, upon application of two or more allied companies or two or more branches of the same company, may approve a testing point common to the applying parties.

X. That upon the acceptances of this Order by the Kings County Lighting Company, an Order entered by the Commission in Case No. 108-A on March 23, 1922, as amended

by an Order entered in Case No. 108-A on April 25, 1922 shall be deemed abrogated and set aside as of October 1, 1922, and the provision of this Order shall become immediately effective; and that upon the acceptance of this Order by the Brooklyn Borough Gas Company, the Order entered by the Public Service Commission for the First District in its Case No. 2320 on July 2, 1920, shall be deemed abrogated and set aside and the provisions of this Order shall immediately become effective.

XI. That upon the acceptance of this Order by the Queens Borough Gas and Electric Company, the Order entered by the Public Service Commission for the Second District, in Case No. 1502 on October 11, 1916, applicable to the franchise territory of that company in Nassau County, shall be deemed abrogated and set aside as of October 1, 1922.

XII. That this Order shall take effect on the date specified herein, and shall continue in effect until changed, modified or abrogated by this Commission, and that within ten (10) days from the service of a copy hereof each gas corporation subject to the jurisdiction of this Commission, manufacturing or supplying gas within The City of New York, or in the territory served by the Queens Borough Gas and Electric Company in Nassau County, shall notify this Commission whether the Order is accepted and will be obeyed.

By The Public Service Commission.

—— ——, Secretary.

[fol. 1343] PLAINTIFF'S EXHIBIT NO. 60

AT A MEETING OF THE PUBLIC SERVICE COMMISSION, STATE OF NEW YORK, HELD AT THE CITY OF NEW YORK ON THE 25TH DAY OF APRIL, 1922

Present: Hon. William A. Prendergast, Chairman, Hon. William R. Pooley Hon. Charles Van Voorhis, Hon. Oliver C. Semple, Charles C. Blakeslee, Commissioners.

Case 108-A

In the Matter of Standards of Purity, Illuminating Power, and Heating Power of Gas and Standards of Measurement Thereof in the City of New York and Suburban Territory

In the Matter of Kings County Lighting Company

Amending Order Fixing Standard of 525 B. T. U.

An order having been made herein on the 23rd day of March 1922, fixing the standard of 525 British Thermal Units for gas manufactured and sold by Kings County Lighting Company, and a requirement regarding the hydrogen sulphide content of said gas having been omitted, Now, after due deliberation, it is

Ordered: That the said order of 23 March, 1922, be amended to read as follows:

"An order having been made on 25 August 1921 directing Kings County Lighting Company to show cause before the [fol. 1344] Commission with respect to the quality of gas furnished by it to its customers and hearings therein having been had on 14 and 19 September, 3 October, 1 November, 1921, and 9 and 16 January 1922, the said Company having appeared by said Ingraham, Sheehan and Moran (Samuel S. Moran, Esq., as Counsel) and the City of New York having appeared by John P. O'Brien, Esq., Corporation Counsel (William S. Jackson, Esq., and Judson P. Hyatt, Esq.) and it now appearing to the Commission upon the evidence presented at said hearings that it would be proper and in the public interest to require the said Company to furnish gas to its consumers of a heating value of not less than 525 British Thermal Units per cubic foot, and it also appearing that it is the intention of the said Company to file immediately upon the acceptance of this order an amendment to its schedule of rates by which its charge for gas to consumers other than the City of New York shall be at the rate of fourteen cents per hundred cubic feet with a minimum monthly charge of fifty cents, it is

"Ordered:

"1. That on or before the 31st day of March 1922, Kings County Lighting Company shall furnish to the consumers, in lieu of a twenty-two candle power standard, a quality of gas that shall contain not more than 12% inert constituents; that each one hundred cubic feet of gas corrected to a [fol. 1345] temperature of sixty degrees Fahrenheit and a barometric pressure of thirty inches column of mercury shall contain no more than thirty grains of sulphur nor more than five grains ammonia; that the gas sold, or manufactured and sold, shall exhibit no trace of hydrogen sulphide when tested as follows: If a strip of white paper moistened with five (5) per cent of weight solution of acetate of lead, and exposed to a current of gas flowing at a rate of about five (5) cubic feet per hour, does not after thirty seconds of such exposure become discolored, the gas shall be considered to contain no hydrogen sulphide; that each cubic foot of gas corrected as above and under the conditions of complete combustion shall have a minimum heating value of 525 British Thermal Units; that the minimum heating value furnished during a month shall not on three consecutive days be in excess of 5% of the average for the month.

"2. That the said Kings County Lighting Company shall report on or before the 3rd day of each month, the daily heating value record of the previous month and the monthly average; that subject to approval by the Commission, the said Company shall establish and maintain a testing station or stations and install therein suitable apparatus, equipment, and reagents for testing gas in accordance with the above requirements.

"3. That the said Company shall keep and file promptly with the Commission such records as will show month by [fol. 1346] month during the continuance of this order in effect, the revenue, expenses and reserves of said Company and its additions to and deductions from capital account.

"4. This order shall take effect upon its formal acceptance by the said Kings County Lighting Company and

shall continue in force until changed or abrogated by further order of the Commission.

"5. That on or before the 31st day of March, 1922, the said Kings County Lighting Company shall notify this commission in writing whether the terms and conditions of this order are accepted and will be obeyed."

By The Commission.

(Signed) Francis E. Roberts.

PLAINTIFF'S EXHIBIT No. 61

Kings County Lighting Company

June 1st to December 31st, 1923

		Fixed capital	Work in progress construction orders
620	General Structures	$44 32	$213 61
621	Works & Station Structures	1,752 24	92,239 38
622	Holders		9,817 99
630	Office Equipment	2,064 94	968 45
631	Shop Equipment	341 50	. . . . .
632	Store Equipment		. . . . .
633	Stable Equipment	10,272 55	. . . . .
634	Gas Laboratory Equipment	132 01	
64	Furnaces, Boilers & Accessories	363 56*	67,154 79
65	Steam Engines		36,242 91
66	Accessory Power Plant Equipment	163 79*	. . . . .
67	Purification Apparatus	52 10*	. . . . .
68	Water Gas Sets & Accessories	270 23*	29 09
69	Accessory Equipment at Works	450 95	40,864 38
70	Trunk Lines & Mains	77,154 05	59,098 57
710	Services	108,319 04	. . . . .
711	Gas Meter Installation	17,473 50	. . . . .
72	Meters	62,801 96	. . . . .
750	Gas Tools & Implements	1,179 51	. . . . .

760	Engineering & Superintendence	8,414 96*		
764	Interest During Construction			*970 00
765	Miscellaneous Construction Expenditures	1,634 62*		
790	Organization	5,097 00		
		$275,996 89		$305,659 17
	Balance Fixed Capital June 1st, 1923		$8,040,159 94	
	Balance Work in Progress June 1st, 1923		96,938 19	
			$8,137,098 13	
Addition to Fixed Capital June 1, to December 31, 1923		$305,659 17		
"	Work in Progress June 1 to December 31, 1923	275,996 89		
		$581,656 06		
	Less Withdrawals	16,241 81		
			565,414 25	
Balance of Fixed Capital & Work in Progress Dec. 31, 1923			$8,702,512 38	

[*Red in copy.]

[fol. 1348] PLAINTIFF'S EXHIBIT No. 62

Kings County Lighting Company

Tar Made & Used by Months—Year 1923

		Used		
Balance January 1, 1923	204,194	@	0993	$20,276 45
Balance January 1, 1923	75,088	@	0525	3,942 12
January Make	22,298	@	0525	1,170 64
February "	20,472	@	0525	1,074 78
March "	22,091	@	0525	1,159 78
April "	19,586	@	0525	1,028 27
May "	18,947	@	0525	994 72
June "	15,880	@	0525	833 70
July "	14,951	@	0525	784 93
August "	13,785	@	0525	723 71
September "	17,477	@	0525	917 54
October "	29,493	@	0525	1,548 38
November "	35,604	@	0525	1,869 21
November "	1,835	@	0475	87 16
December "	39,627	@	0475	1,882 28
Total	551,328			$38,293 67

MAP

TOO

LARGE

FOR

FILMING

MAPS

TOO

LARGE

FOR

FILMING

	Used		
January	22,981	@ .0993	$2,282 01
February	20,384	@ .0993	2,024 13
March	16,611	@ .0993	1,649 47
April	27,048	@ .0993	2,685 87
May	27,668	@ .0993	2,747 43
June	67,228	@ .0993	6,675 74
July	22,274	@ .0993	2,211 80
July	23,438	@ .0525	1,230 50
August	46,304	@ .0525	2,430 96
September	86,632	@ .0525	4,548 17
October	72,011	@ .0525	3,780 58
November	43,120	@ .0525	2,263 80
December	4,167	@ .0525	218 76
December	25,684	@ .0475	1,219 99
Total	505,550		$35,969 21
Sludge	30,000		1,575 01
Total	535,550		$37,544 22
Balance	15,778		$749 45

(Here follow Plaintiff's Exhibits Nos. 70 and 71, marked side folio pages 1349 and 1350)

[fol. 1351] PLAINTIFF'S EXHIBIT No. 72

B. T. U. Tests, Year 1923

Made at Kings County Lighting Co. Testing Station

Month	P. S. C. mo. avg.	K. C. L. Co. mo. avg.
January	538	543
February	546	548
March	553	554
April	549	554
May	545	548
June	547	549
July	550	551
August	558	558
September	548	548
October	547	545
November	543	545
December	543	547

PLAINTIFF'S EXHIBIT NO. 73

Kings County Lighting Company

Cost of Making Gas Sold Year 1923 Adjusted to 650 b. t. u. Standard

						Amount	Cost per M. C. F. sold
Cost of Gas Sold as per Plaintiff's Exhibit #49						$1,640,279.49	.9138
Gas Oil as Per Exhibit #49 (2.83 Gals. Per M. C. F. Made)	5,604,136 Gals.	@	.052089	.....	8291,919.01	.....	.....
Gas Oil Required to furnish the same amount of Gas of a Standard of 650 b. t. u. (4.65 Gals. per M. C. F. Made)	9,194,956 Gals.	@	.052089	.....	478,956.06	.....	.....
Additional Cost of Gas Oil						187,037.05	.1042
						1,827,316.54	1.0180
Generator Fuel as per Exhibit #49 (33.98 lbs. per M. C. F. Made)	29,905.141 Tons	@	10.062	301,814.14			
Generator Fuel Required to Furnish the same amount of gas of a Standard of 650 b. t. u. (32.00 lbs. per M. C. F. Made)	28,248.714 Tons	@	10.062	284,238.56	17,575.58		
Boiler Fuel as per Exhibit #49 (5.24 lbs. solid Fuel per M. C. F. Made)	4,626.106 Tons	@	9.295	43,012.28			
Boiler Fuel required to Furnish the same amount of Gas of a Standard of 650 b. t. u. (3.98 lbs. Solid Fuel M. C. F. Made)	3,513.434 Tons	@	9.295	32,657.37	10,354.91		
Water Gas Tar Produced as per Exhibit #49	272,046 Gals.	@	.051737	14,075.10			
Water Gas Tar Produced on basis of Furnishing the same amount of Gas of a standard of 650 b. t. u.	1,379,243 Gals.	@	.051737	71,357.90	57,282.80		
Less Decrease in Cost of Generator and Boiler Fue and Increase in Residual Credit						85,213.29	.0475
Total Cost of Gas Sold Year 1923 on 650 b. t. u. basis						1,742,103.25	.9705

[fol. 1353] PLAINTIFF'S EXHIBIT No. 76

Kings County Lighting Company

Increase Cost of Making Gas of 650 b. t. u. Standard Based on Present Day Prices

			M. C. F. Made
Increase			
Gas Oil 1.82 Gal. @	$ 0475475		$ 0865
Decrease			
Generator Fuel 1.98 lb. @	$ 00449	$ 0089	
Boiler Fuel 1.26 lb. @	00415	0054	
Gas Tar .47 Gal. @	0475475	0223	
		$ 0366	
Less Decrease			$ 0366
Net Increase			$ 0499

PLAINTIFF'S EXHIBIT No. 77

Heating Value Standards Adopted by State Commissions

State	Total heating value: Monthly average	Total heating value: Maximum	Total heating value: Minimum	Date effective	Remarks
Arizona	600		550	May 1, 1915	
California	550*	575	525	Apr. 1, 1923	*At plant
	540**	565	515		**At center of consumption
Colorado	***	+5%	−5%	Oct. 1, 1923	***Established by the company
Connecticut			528	Oct. 1, 1918	
Dist. of Columbia	600		550 x	Sept. 1, 1914	x Daily average
Illinois	565		530	Jan. 1, 1921	
Indiana	570	600	540	May 1, 1920	
Maine	525	555 x	495 x	July 1, 1921	x Daily average
Maryland	600		550	July 1, 1915	
Massachusetts			528	Jan. 1, 1918	
Missouri	570		520	Oct. 1, 1915	
Montana	475	505 x	445 x	Jan. 3, 1921	x Daily average
Nevada	550		500	Sept. 3, 1911	
New Hampshire	565		550	Apr. 1, 1917	
New Jersey			515 525 x	Nov. 9, 1921	x Daily average

**Above monthly average on any 3 consecutive days

Heating Value Standards—Continued

State	Total heating value: Monthly average	Total heating value: Maximum	Total heating value: Minimum	Date effective	Remarks
New York (principal cities)	537	+5%**	525+	Oct. 1 and 15, 1922	+Daily average on any 3 consecutive days
New York	585	...	—5% o		o Below 585 for 3 consecutive days
North Carolina	540	570 x	510 x	Jan. 1, 1917	x Daily average
North Dakota	525	550	500	Jan. 1, 1921	
Oregon	570 oil gas	...	550	Jan. 1, 1921	
	600 other gas			July 1, 1914	
Pennsylvania	520	...	500	Dec. 13, 1920	
South Carolina	540	570 x	510 x	Oct. 1, 1922	x Daily average
Washington	600	...	550	June 15, 1912	
Wisconsin	520	+5%	—4%	Sept. 8, 1920	

[fol. 1355] PLAINTIFF'S EXHIBIT No 78

City Calorific Standards

Date effective	State and city	B. t. u. (average)
	Alabama:	
—	Bessemer	525*
8/17/20	Birmingham	500**
12/27/21	Fairfield	500**
—	Huntsville	600*
4/21	Mobile	520**
1921	Montgomery	530**
—	Tuscaloosa	465*
	Arkansas:	
5/26/20	Helena	525* to 550
	Georgia:	
—	Albany	575
1921	Americus	575
1921	Athens	575
3/24/18	Atlanta	575
3/1/18	Augusta	575
—	Brunswick	575
—	Columbus	575**
—	Griffin	575
—	Macon	575
—	Rome	575
1/18	Savannah	575
—	Valdosta	575

*City Authorities.
**Special standard fixed by State Commission.

Plaintiff's Exhibit No. 78—Continued

Date effective	State and city	B. t. u. (average)
California:		
5/10/21	Gilroy	550
"	Hollister	550
—	Los Angeles	750
8/ 1/21	Oakland	L. P. 550
		H. P. 535
"	Berkeley	L. P. 550
		H. P. 535
"	Redmont	550
"	Emeryville	L. P. 550
		H. P. 535
"	Alameda	L. P. 550
		H. P. 535
"	Albany	L. P. 550**
		H. P. 535
"	Hayward	H. P. 535
"	San Leander	H. P. 535
"	Richmond	H. P. 535
"	Red Wood	535
"	San Diego	540
"	San Francisco	550
"	San Jose	540
—	Santa Barbara	540
5/10/21	Santa Cruz	550
"	Watsonville	550

Date effective	State and city	B. t. u. (average)
	Illinois:	
1/25/22	South Beloit	520**
	Indiana:	
9/ 1/20	Vincennes	525**
	Iowa:	
1913	Albia	590*
1918	Ames	550*
12/ 1/21	Boone	525*
10/20	Burlington	525*
1913	Cedar Rapids	600*
1909	Charles City	600*
—	Clinton (Min.)	540*
8/20	Creston	550*
7/ 8/18	Des Moines	560*
3/22	Dubuque	560*
12/16	Fairfield	550*
11/ 1/20	Fort Dodge	550*
1914	Fort Madison	600*
—	Grinnell	600*
1913	Independence	600*
—	Iowa City	600*
1915	Iowa Falls	525*

Delaware:

—	Wilmington		600*

Florida:

1915	Lakeland		580*
—	Miami	(Min)	575*
10/20	Ocala		480*
—	Pensacola		560*
1/ 1/22	Tampa		530*
	Jacksonville		585

[fol. 1356] Kansas:

10/15/20	Emporia		550}
10/20/19	Manhattan		550}*

Louisiana:

11/ 1/20	Baton Rouge		550}
—	New Orleans		600}*

Maryland:

7/ 1/20	Baltimore		500}
1921	Frederick		550}**

*City Authorities.

**Special standard fixed by State Commission.

3/ 1/22	Marshalltown		550*
—	Mason City		600*
5/ 1/14	Muscatine		590*
1921	Oskaloosa		565*
—	Perry		550*
1913	Shenandoah		600*
8/ 1/22	Sioux City	(Min.)	550*

—	Plymouth		600*
12/ 1/21	Pontiac		530**
—	Port Huron		600*
—	Saginaw (Arbitration)		570
9/20/21	Sault Ste. Marie		530}
3/ 1/21	South Haven		530}**
1/ 1/22	Sturgis		550*
—	Three Rivers		580?*
—	Traverse City		600*
—	Teeland		540*

Plaintiff's Exhibit No. 78—Continued

Date effective	State and city	B. t. u. (average)
	Michigan* **	
—	Adrian	600*
—	Albion	540*
1/ 1/22	Alma	530**
1921	Ann Arbor	575*
8/11/20	Bay City	530**
9/ 1/20	Big Rapids	550*
—	Cadillac	600*
1/21	Charlotte	570**
6/07	Detroit	600*
—	Escanaba	530*
11/28/21	Flint	530
5/ 6/21	Grand Haven	530 **
11/ 3/21	Grand Rapids	530
7/ 7/20	Greenville	575*
1/ 1/21	Hillsdale	530**
7/13/20	Holland	540**
(Mun. plant)	Ironwood	540*
8/19/18	Jackson	565*
—	Kalamazoo	600*
1/15/21	Lansing	530**

Date effective	State and city	B. t. u. (average)
	Minnesota:	
	Albert Lea	540
1911	Austin	550 *
		to
		600
—	Crookston	600*
—	Duluth	585*
1917	Mankato	585
1910	Minneapolis	600
—	New Ulm	600
—	Red Wing	520
—	St. Paul	600 *
—	South St. Paul	600
1916	Stillwater	570
	Winona	520
	Mississippi:	
1916	Biloxi	550
—	Jackson	550 *
2/10/21	Meridian	500

—	Marquette	550	
—	Menominee	540	*
3/ 1/22	Monroe	530	**
12/10/20	Mt. Clemens	570	*
9/ 1/20	Muskegon	530	
11/21	Muskegon Heights	530	**
1913	Niles (Min.)	550	*
—	Otsego (Federal)	530	
2/20	Owosso	530	**

[fol. 1357]

6/ 6/22	Fremont	525	
—	Hastings	600	
9/20/20	Lincoln	550	
9/ 1/20	Nebraska City	550	*
5/22	Norfolk	525	
7/ 1/20	Omaha	565	
—	Plattsmouth	550	

Ohio:

—	Archbold	500	
—	Cleveland	600	
—	Lima	500	
	Montpelier	500	*
12/20	Napoleon	500	
4/15/18	Painesville	540	

Missouri:

12/18/20	Cape Girardeau	450	**

Nebraska:

1918	Beatrice	600	
—	Blair	600	
1909	Columbus	550	*
4/ 1/22	Fairbury	600	
10/21	Chattanooga	510	
1920	Jackson	530	**
1915	Knoxville	500	*
—	Johnson City	580	
		525	

Texas:

—	Austin	575	*
10/ 1/20	Brenham	520	
7/21	Corpus Christi	565	
10/21/20	Galveston	550	
1921	Houston	530	
—	Paris	550	*
—	Port Arthur	540	
—	San Antonio	550	
—	Waxahachie	600	

*City Authorities.
**Special standard fixed by State Commission.
***Data from Michigan Gas Association 3/1/1923.

Plaintiff's Exhibit No. 78—Continued

Date effective	State and city	B. t. u. (average)
	Pennsylvania:	
7/19/20	Philadelphia	530*
	Rhode Island:	
5/17/20	Providence	510**
11/22	Newport	530*
—	Woonsocket	530**
—	Westerly	528**
	South Carolina:	
—	Charleston	600
—	Sumter	500 *
	South Dakota:	
1920	Watertown	550*
	Tennessee:	
—	Ogden	500
—	Provo	550 *
—	Salt Lake City	525
	Vermont:	
—	Burlington	525*
	Virginia:	
8/15/21	Lynchburgh	550**
8/ 1/20	Richmond	550*
—	Roanoke	600*
	Washington:	
1/ 1/21	Seattle (Min.)	500
1/ 1/21	Spokane (Min.)	520 **
8/ 1/21	Tacoma (Min.)	475

*City Authorities.
**Special standard fixed by State Commission.

[fol. 1358] PLAINTIFF'S EXHIBIT NO. 79

This agreement made the 19th day of March, 1924, between the Seaboard By-product Coke Company, a corporation organized under the laws of the State of New Jersey, party of the first part, hereinafter called the "Seller," and the Kings County Lighting Company, a corporation organized under the laws of the State of New York, party of the second part, hereinafter called the "Buyer," witnesseth:

That the Seller hereby agrees to sell and the Buyer agrees to purchase between the first day of April, 1924, and the thirty-first of March, 1925, the quantity and quality of coke at the prices and upon the terms and conditions hereinafter stated, to wit:

Quantity and Rate of Shipment: The Seller shall deliver in barges furnished by the Buyer at the Seller's Plant on the Hackensack River in Kearny, New Jersey, 35,000 gross tons of "Virginia" coke. Such gross quantity, which is to be delivered in monthly installments throughout the year, may be varied 10% more or less at the option of the Buyer.

It is mutually understood and agreed that the Buyer will order and the Seller will load the coke covered by this contract in as near equal quantities each month as the gas demand and storage facilities of the Buyer will permit, and that the Buyer will specify on or before the first day of each month the approximate quantity of coke which it will require during such month.

Description: "Virginia" coke shall be made from a mixture of Rhoda or Gauley Mountain high volatile coal and New River low volatile coal, or from coals which will produce coke which upon an approximate analysis on a [fol. 1359] dry basis will analyze (within a variation of 1% more or less) 8% in ash and 90% in fixed carbon; and will contain not over 1% in sulphur.

All coke before being loaded at the plant of the Seller shall be screened over a grizzly disc screen, the discs of which shall be spaced two inches apart, so that all sizes from breeze to stove sized coke will be eliminated. Should the moisture content of any barge delivery exceed 4%, an allowance will be made by the Seller for the excess.

Prices: It is understood that the Seller has heretofore entered into contracts for the purchase of Rhoda, Gauley Mountain and New River coal with which to manufacture sufficient "Virginia" coke to meet all of its contract requirements for water gas fuel during the term of this agreement.

The price which the Buyer shall pay for "Virginia" coke manufactured from coal now under contract and delivered into barges of the Buyer at the Seller's Plant, shall be Nine Dollars and forty cents ($9.40) per gross ton.

In the event that because of strikes or other causes beyond its control, the Seller shall be unable to procure coal under its existing contracts for the manufacture of "Virginia" coke sufficient to meet its contract requirements, the Seller shall each month pro-rate deliveries of "Virginia" coke among its customers under its then existing contracts for water gas fuel in proportion to such coal received during said month. If the Buyer notwithstanding the inability of the Seller to procure such coal, desires the Seller to furnish coke in excess of its pro-rata share and [fol. 1360] not exceeding its full contract requirements, then the Seller shall buy coal in the open market and the coke made and furnished from such coal so purchased shall be delivered into barges of the Buyer at the Seller's wharf as aforesaid, at a price per gross ton equivalent to the cost of such coal per gross ton f. o. b. plant of Seller plus two dollars and twelve cents ($2.12). In every such case the price of coke to be paid by the Buyer hereunder shall be determined on a monthly basis at the end of each month, and the average cost per gross ton to the Seller of all coal purchased in the open market for delivery to it in any month is to be taken as the cost to the Seller of coal for the manufacturer of coke under this contract in such month, in excess of the Buyer's pro-rate share. In any such case such price is to govern whether the coal so purchased be such as is hereinabove defined for use in the manufacture of "Virginia" coke or otherwise.

In case it shall become apparent to the Seller that because of strikes or other causes beyond its control, it shall be unable to secure sufficient coal now under contract for the manufacture of "Virginia" coke to meet its contract obligations, it shall so notify the Buyer, stating as nearly as possible the quantity of such coke which shall be avail-

able for delivery hereunder, and shall also as far as possible advise the Buyer of the respective names and locations of the mines from which coal may be procured in the open market, the respective prices of such coal, and the approximate analysis of the coke made therefrom and will [fol. 1361] so far as possible if so requested by the Buyer purchase coal in the open market which will produce coke satisfactory to the Buyer.

If the Seller should make any contract for a period greater than six months for the delivery of coke during the period covered by this agreement with any gas company located in the State of New York, at any base price more favorable than the base price herein stated, then the Seller will immediately reduce the price charged for coke under this contract to such lower base price.

Time of Payment: All coke delivered by which is meant a barge fully loaded at Seller's dock during any month under this contract shall be paid for in cash by the Buyer on or before the twentieth of the following month.

The Seller agrees that the total number of days detention at the wharf of the Seller in any month of barges furnished by the Buyer under this contract, shall not exceed three times the number of barges so furnished during said month. In case such barges shall be detained during any month for a greater number of days than herein provided, the Seller shall pay the prevailing demurrage charges for such excess, not exceeding, however, the sum of fifteen dollars ($15 00) per day.

The covenants and agreements herein shall be subject to strikes, fires, or any cause beyond the control of either party hereto and shall inure to the benefit of and be binding upon the parties hereto, and their respective successors.

In Witness Whereof, the Seaboard By-Product Coke [fol. 1362] Company has caused this agreement to be signed by its Manager and its corporate seal to be hereunto affixed and attested by its Assistant Treasurer, and the Kings County Lighting Company has caused this agreement to be signed by its Vice President, and its corporate seal to

be hereunto affixed and attested by its Secretary, the day and year first above mentioned.

Seaboard By-Products Coke Company, by D. Mac Arthur. Attest: L. J. Love. (Corporate Seal.)
Kings County Lighting Company, by Paul Bucher. Attest: A. J. Gonnoud. (Corporate Seal.)

[fol. 1362½] [Endorsed:] Mr. Judson Hyatt, c/f Corporation Counsel, Municipal Bldg., N. Y. City.

(Here follows Plaintiff's Exhibit No. 80, marked side folio pages 1363, 1364, 1365, and 1366.)

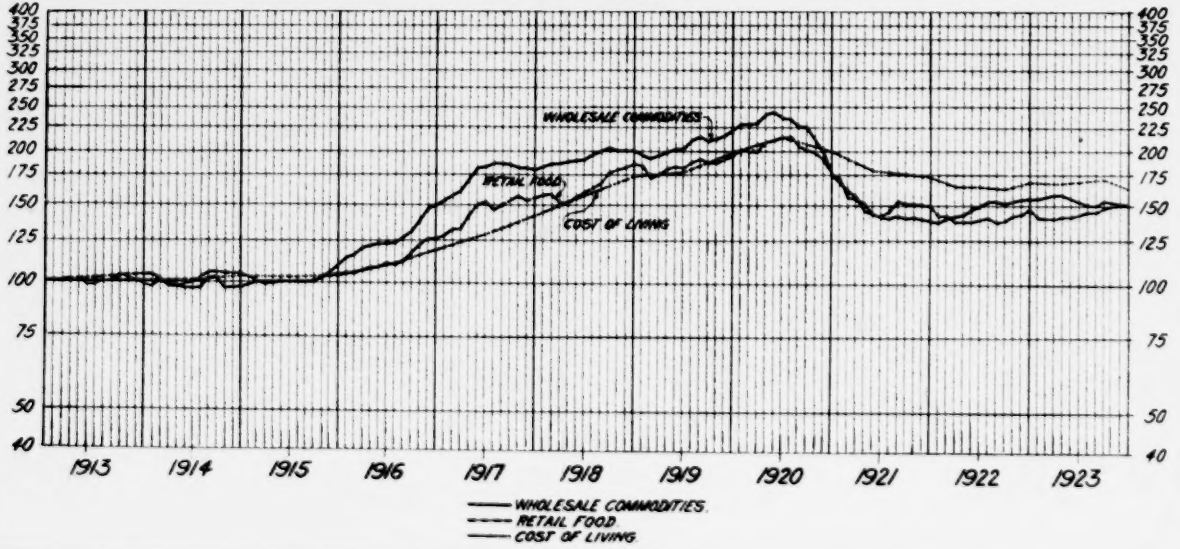
[fol. 1367] PLAINTIFF'S EXHIBIT No. 81

Kings County Lighting Company

Cost of Property as per Books of Plaintiff and Its Predecessor with Present Value of Land and Working Capital

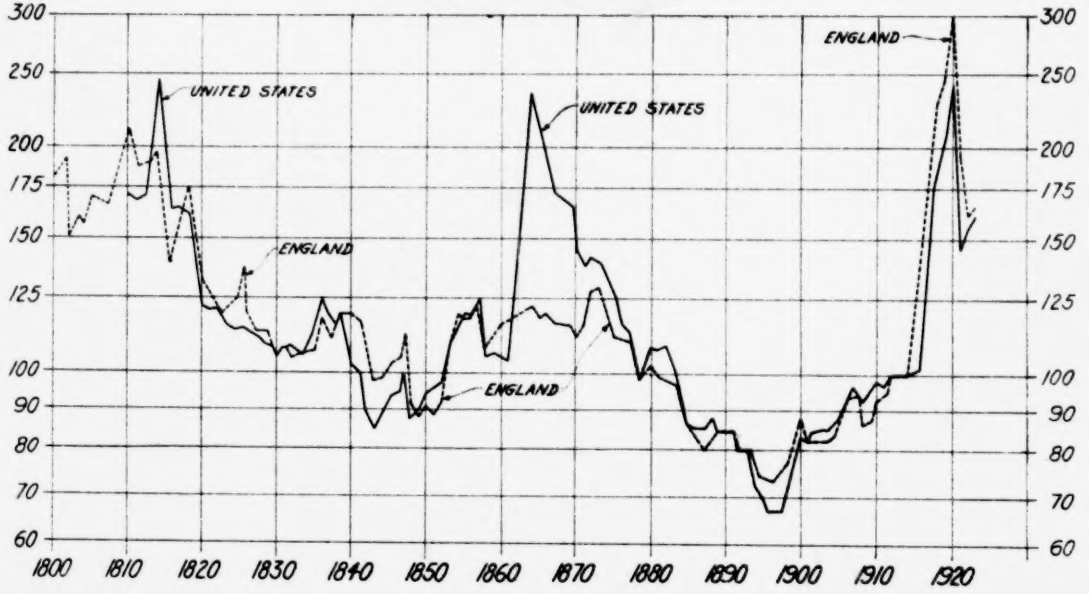
Cost of Real Estate Improvements and Equipment Kings County Gas & Illuminating Company as of June 30, 1904 (Page 2 of Defendant's Exhibit #22)	$2,441,997 40	
Less Original Cost of Land	139,000 00	
Cost to Plaintiff's predecessor of Property Exclusive of Land		$2,302,997 40
Net Additions to Fixed Capital July 1, 1904 to December 31, 1908 as per the books of Plaintiff		453,653 90
		2,756,651 30
Less Retirement of Capital Installed prior to December 31, 1908 from December 31, 1908 to Dec. 31, 1923		46,580 64
		2,710,070 66
Net Additions of Capital installed since Dec. 31, 1908 to Dec. 31, 1923 (Exclusive of Land)		3,791,530 43

PRICES IN THE UNITED STATES
1913–1923
(1913 – 100)

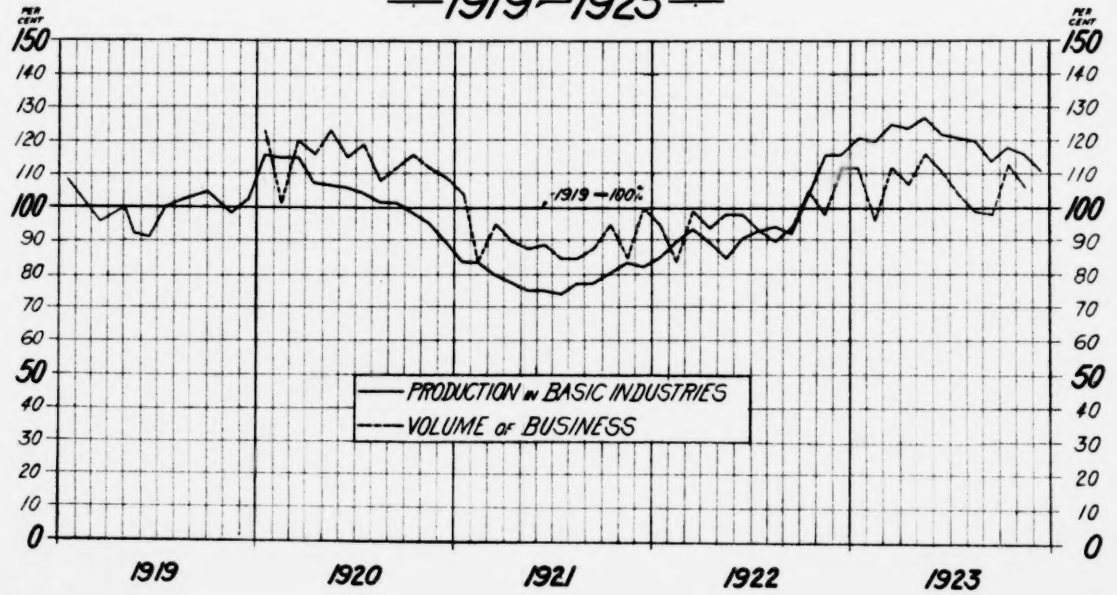


1363

COMMODITY PRICES IN THE UNITED STATES, 1810-1923
AND
ENGLAND, 1800-1923
PRICES IN 1914 = 100

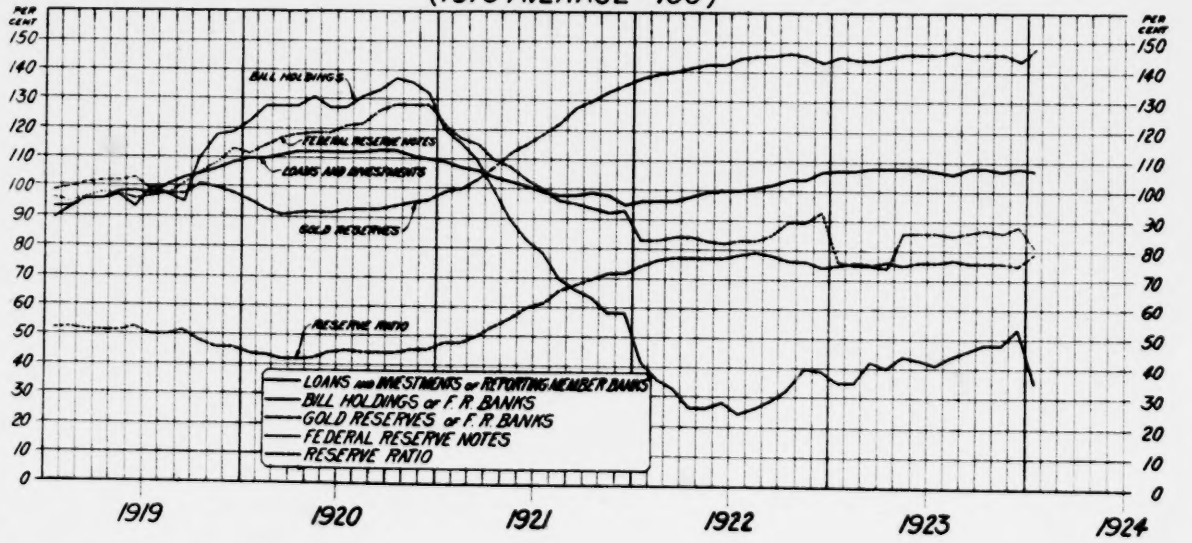


PRODUCTION IN BASIC INDUSTRIES
AND
VOLUME OF BUSINESS
—1919—1923—



1365

BANK CREDIT
GOLD RESERVES AND FEDERAL RESERVE NOTES
1919–1923
(1919 AVERAGE = 100)



1366

Present Value of Land:		
Works Site	$1,141,744 00	
Holder Station Site	203,867 50	
		1,345,611 50
		7,847,212 59
Working Capital—Plaintiff's Exhibit #54		868,372 47
		8,715,585 06

[fol. 1368] Kings County Lighting Company

Public Service Commission's Appraisal of Property Existing on December 31, 1910, with Subsequent Additions, Present Value of Land, and Working Capital

Cost to Reproduce Property exclusive of land existing on December 31, 1910 according to Public Service Commission's Decision in Case #1273	$1,902,777 00
(a) Allowed for Interest and Taxes during Construction	120,000 00
(b) Preliminary and Development Expense	140,000 00
Total	2,162,777 00
Net Additions to Fixed Capital from December 31, 1910 to December 31, 1923 Exclusive of Land	3,592,188 96
	5,754,965 96
Less Retirements of Fixed Capital Installed prior to December 31, 1908	37,206 99
	5,717,758 97

Present Value of Land:		
Works Site	$1,141,744 00	
Holder Station Site	203,867 50	
		1,345,611 50
		7,063,370 47
Working Capital—Plaintiff Ex. #54		868,372 47
		$7,931,742 94

[fol. 1369] Cost to Reproduce Property Exclusive of Land Existing on December 31, 1910, as Detailed in Decision of Public Service Commission in Case #1273

	Net Cost	Percentage Allowances	Cost to reproduce, new	Accrued Depreciation	Present Value
General Structures	$18,620	$4,934	$23,554	$5,001	$18,553
Furnaces, Boilers & Accessories	22,928	6,076	29,004	9,747	19,257
Water Gas Sets & Accessories	74,866	19,840	94,706	28,590	66,116
Misc. power plant equipment	1,855	492	2,347	893	1,454
Works & Station Structures	183,147	48,534	231,681	62,160	169,521
Holders	232,432	61,595	294,027	30,437	263,590
Purification Apparatus	25,148	6,664	31,812	9,302	22,510
Accessory equipment at Works	64,186	17,010	81,196	16,250	64,946
Trunk Lines and Mains	628,846	166,644	795,490	168,178	627,312
Gas Services	108,657		108,657	27,847	80,810
Gas Meters	127,429		127,429	27,304	100,125
Gas Meter Installation	24,539		24,539	5,258	19,281
Municipal Street Lighting Fixtures	16,525	4,379	20,904	13,731	7,173

Gas Engines and Appliances	1,074	284	1,358	272	1,086
Gas Tools and Implements	161	.....	161	18	143
Gas Laboratory Equipment	1,454	.....	1,454	218	1,236
General Equipment	12,036	.....	12,036	2,789	9,247
Total	$1,543,903	$336,452	$1,880,355	$407,995	$1,472,360
Development Item, Trunk Lines & Mains	17,725	4,697	22,422	7,203	15,219
Total	$1,561,628	$341,149	$1,902,777	$415,198	$1,487,579

[fol. 1370] PLAINTIFF'S EXHIBIT No. 82

Kings County Lighting Company

Outstanding Securities as of May 8th, 1924

Bonds:		
First Mortgage Bonds	$750,000.00	
First Refunding Mtg. Bonds 5's.. $2,428,000.00		
Less Reacquired Bonds 39,000.00		
	2,389,000.00	
First Refunding Mtg. Bonds 6½'s	1,822,000.00	
Total Bonded Indebtedness		$4,961,000.00
Stock:		
Preferred Stock (Series "A" 8%)	500,000.00	
Preferred Stock (Series "B" 7%)	413,300.00	
Common Stock (Non Par) Stated Value	2,000,000.00	
Total Outstanding Stock		2,913,300.00
Total Outstanding Securities		7,874,300.00
Subscriptions to Preferred Stock (Series "B" 7%) 166 Shares Paid in Full	16,600.00	
2,725 " Part Paid	95,169.50	
Amount Due in Subscriptions	177,330.50	
Total Amount Subscribed For But Not Yet Issued..		289,100.00
Total Securities Outstanding & Subscribed For.....		$8,163,400.00

[fol. 1371] PLAINTIFF'S EXHIBIT No. 83

Kings County Lighting Company

Comparative Balance Sheet, December 31st

	1922	1923
Assets:		
Fixed Capital	$8,047,714.00	$8,702,512.38
Material & Supplies	225,124.64	254,260.92
Total	8,272,838.64	8,956,773.30
Current Assets:		
Cash & Special Deposits	419,066.46	458,072.35
Bills & Accounts Receivable	324,958.92	335,559.79
Total	744,025.38	793,632.14

	1922	1923
Miscellaneous Temporary Debits:		
Unamortized Debt Disc. & Expenses	178,062.27	174,765.83
Prepayments	7,547.83	7,736.39
Other Suspense Accounts	113,500.27	181,122.78
Total	299,110.37	363,625.00
Reacquired Securities	39,000.00	39,000.00
Total Assets Side	9,354,974.39	10,153,030.44
Liabilities:		
Funded Debt	5,000,000.00	5,000,000.00
Unfunded Debt:		
Accounts Payable	435,246.90	495,124.08
Taxes Accrued	77,516.82	122,397.54
Bond Interest Accrued	131,082.50	130,557.50
Interest on Consumers' Deposits	54,399.08	68,383.17
Consumers' Deposits	331,595.00	423,020.00
Dividends Declared	49,728.57	20,151.90
Other Unfunded Debt	43,823.47	37,132.90
Total	1,123,392.34	1,296,767.09
Capital Stock Preferred	240,200.00	500,000.00
Capital Stock Common	2,000,000.00	2,000,000.00
	2,240,200.00	2,500,000.00
Reserves:		
Reserve for Plant Withdrawn	171,397.98	201,910.62
Reserve for Contingencies	256,695.72	292,089.21
Reserve for Money Received Excess of $1.00 Rate	.....	289,400.00
Other Reserves	36,550.54	43,189.09
	464,644.24	807,188.92
Surplus	526,737.81	549,074.43
Total Liabilities Side	9,354,974.39	10,153,030.44

[fol. 1372]

PLAINTIFF'S EXHIBIT No. 84

Kings County Lighting Company

Cost of Making Gas Sold in 1923 Adjusted to Present Day Prices

						Amount	Cost per M. C. F. sold
Cost of Gas Sold—Plaintiff's Exhibit #49						$1,640,279.49	$.9138
Gas Oil—Exhibit #49	5,604,166 Gal.	@	$.052089	$291,919.01			
Gas Oil—At Present Contract Price (Plus Handling Cost)	5,604,166 "	@	.0475475	266,464.08			
Net Decrease in Cost of Gas Oil					$25,454.93		
Generator Fuel—Exhibit #49	29,995.141 Tons	@	10.062	301,814.14			
Generator Fuel at Present Contract Price (Plus Handling Cost)	29,995.141 "	@	9.9673	298,970.57			
Net Decrease in Cost of Generator Fuel					2,843.57		
Less Decrease in Cost of Coal and Oil						28,298.50	.0158
Cost of Gas Sold Based on Present Contract Price of Coke and Oil						1,611,980.99	.8980

[fol. 1373] PLAINTIFF'S EXHIBIT No. 85

Kings County Lighting Company

Cost of Production & Distribution and the Result of Operations Twelve Months Ended March 31, 1924

Cost of Production:	Quantity	Price		Amount	Cost per M. C. F. made	Material per M. C. F. made
Generator Fuel	29,320,317 Tons	$10.15618	Ton	$297,782.45	$.1506	32.88 Lbs.
Boiler Fuel Coal	3,423,903 "	9.84753	"	33,716.99	.0171	3.88 "
Boiler Fuel Water Gas Tar	568,947 Gal.	.0629426	Gal.	35,811.04	.0181	.29 Gal.
Total Fuel				367,310.48	.1858	
Gas Oil	5,606,767 Gal.	.05064002	Gal.	283,926.83	.1436	2.84 Gal.
Water				2,820.20	.0015	
Iron Oxide	23,004.48 Bu.	.30236	Bu.	6,955.62	.0035	
Sundries Supplies				542.23	.0003	
Total Material				661,555.36	.3347	
Residuals — Water Gas Tar Produced	337,199 Gal.	.049957	Gal.	*16,845.57	*.0085	
				*1,318.42	*.0007	
				*18,163.99	*.0092	
Net Material				643,391.37	.3255	
Gas Making Labor				106,521.65	.0538	
Total Labor & Material				749,913.02	.3793	

*Red in copy.

Cost of Production & Distribution—Continued

	Quantity	Price	Amount	Cost per M. C. F. made	Material per M. C. F. made
Repair Labor & Material			77,859.37	.0394	
Miscellaneous Works Expense			25,220.10	.0127	
Gas Storage			29,298.18	.0148	
Total Cost of Production—Forward	1,977,470,000 Cu. Ft.		$882,290.67	$.4462	
Decrease Gas On Hand					130,000 Cu. Ft.
Used by Company					4,738,900 " "
Gas Sales to Consumers					1,806,796,100 " "
Total					1,811,405,000 " "
"Unaccounted for" due to condensation, leakage, slow meter, etc					166,065,000 (8.40%)

	Amount	Cost per M c. f. sold
[fol. 1374] Total Cost of Production—Forward—Cost Per M Cubic Feet Sold	$882,290.67	.4870
Cost of Distribution and Other Expenses:		
Transmission Pumping	1,893.53	.0010
Distribution Superintendence	11,409.02	.0063
Distribution Supplies & Expenses	9,424.06	.0052
Meter & Installation Work	26,509.88	.0146
Work on Consumers' Premises	23,566.62	.0130
Repairs Mains	35,687.57	.0198
Repairs Services	16,956.15	.0094
Repairs Meters	28,761.04	.0159
Repairs Appliances	203.48	.0001
Repairs General Structures	1,647.02	.0009
Repairs Distribution Tools	2,457.09	.0013
Street Lighting Expenses	1,109.91	.0006
Commercial Expenses	182,998.16	.1011
Salaries & Expenses General Office	77,671.04	.0428
General Law Expenses	19,146.12	.0106
Miscellaneous General Expenses	38,902.96	.0215
Insurance	16,701.57	.0092
Accidents & Damages	1,957.06	.0011
General Stationery	17,584.89	.0097
Undistributed Adjustments	*1,581.15	*.0010
Duplicate Charges—Credits	*6,160.57	*.0033
Uncollectible Bills	8,207.02	.0045
Total Cost of Distribution, etc.	515,052.47	.2843
Retirement Expense	54,349.95	.0300

Total Cost of Production—Continued

Taxes:			Amount	Cost per M c. f. sold
Real Estate Land	$997,000.00			
Improvements	1,872,000.00			
Total	2,869,000.00	$78,754.08		
Less Amount Charged to Non-Operating Tax		7,835.53		
			70,918.55	.0393
Special Franchise Tax	1,953,000.00	.....	53,609.85	.0296
State Gross Earnings Tax			12,190.14	.0067
Capital Stock Tax			2,333.98	.0012
Taxes on Dividends			2,690.22	.0015
Federal Income Tax			68,162.45	.0376
Total Tax			209,905.19	.1159
Total Cost of Gas Sold			$1,661,598.28	.9172

[fol. 1375] PLAINTIFF'S EXHIBIT NO. 87

Kings County Lighting Company

Consumers on District April 30, 1923	50,200	
" " " April 30, 1924	58,653	
Increase	8,453	16 84%
Cubic Feet of Gas Sold 4 Months Ended April 30, 1923	660,042,704	
Cubic Feet of Gas Sold 4 Months Ended April 30, 1924	678,018,029	
Increase	17,975,325	2 72%

[fol. 1376] PLAINTIFF'S EXHIBIT NO. 89

Kings County Lighting Company

Cost to Company of paving cuts over mains to June 1, 1923	$16,663 61
Cost to Company of paving cuts over services to June 1, 1923	81,033 04
Cost of paving to June 1, 1923	$97,696 65
Cost to Company of paving cuts over mains June 1st to Dec. 31, 1923	$1,245 58
Cost to Company of paving cuts over services June 1st to Dec. 31, 1923	23,663 79
Cost of paving June 1st to December 31, 1923	$24,909 37
Total cost of paving	$122,606 02

Tabulation of Tests made from January 1st to August 31, Inclusive, 1917

Company	Testing station	Illuminating value in candles				Heating value in B. T. U.			
		No. tests	Max.	Min.	Ave.	No. tests	Max.	Min.	Ave.
Consol.—Br. 1	Grand	87	23 4	19 6	22 0	86	704	640	665
" .—Br. 2	"	86	24 2	19 4	22 0	86	693	620	666
" .—Br. 3	"	87	22 7	19 4	22 1	86	686	635	665
" .—Br. 3	E. 79th	133	24 0	20 8	22 6	132	703	649	671
" .—Br. 4	"	132	24 1	21 1	22 6	131	707	651	672
" .—Br. 6	"	132	24 3	20 5	22 6	131	708	649	670
" .—	59 Walker	162	24 9	19 8	22 2	402	706	642	668
Consolidated System		819	24 9	19 4	22 3	1054	708	620	669
New Amsterdam	Grand	88	23 6	19 4	21 9	85	691	628	664
"	E. 79th	133	24 6	21 4	22 6	130	712	652	672
New Amsterdam System		221	24 6	19 4	22 3	215	712	628	669
New York Mutual	Grand	88	23 2	19 1	21 4	86	675	641	656
Standard	E. 79th	133	24 0	21 3	22 6	132	715	655	672
Cen. Union	3rd Ave.	242	26 1	19 5	22 7	116	721	652	675
N. Y. & Queens	Flushing	88	23 4	20 5	22 3	64	679	619	651
Consolidated Systems		1591	26 1	19 1	22 3	1667	721	619	668

B. U. G.—Wmsburg	Lee	98	26.1	19.5	22.6	63	671	608	638
" —Nassau	"	97	26.2	19.5	22.7	63	730	617	639
" —Fulton	Court	129	25.8	17.3	22.7	119	691	586	630
" —Citizens	"	139	27.0	16.9	22.4	138	697	568	637
" —Metro.	4th Ave.	239	24.3	19.1	21.8	134	679	608	636
Brooklyn Union System		702	27.0	16.9	22.2	517	730	568	636
Bronx Gas	Morris	199	27.4	17.8	23.0	88	737	614	680
Kings Co.	N. Utrecht	154	25.4	20.2	22.7	89	665	599	627
Bklyn. Boro	Coney I.	135	25.3	18.7	21.9	77	663	608	636
Queens Boro.	Hammels	163	26.7	20.7	23.5	145	750	615	663
N. Y. & Richmond	N. Brighton	202	23.1	18.2	21.1	61	669	607	636
Independent Companies		853	27.4	17.8	22.6	460	750	599	659
All Companies		3146	27.4	16.9	22.4	2644	750	568	659

[fol. 1378] (The findings are to be considered as Defendant's Exhibit No. 19 and read as follows, extracts from the judgment roll of the below entitled action, Judgment in which case was entered in the office of the clerk of the County of New York, State of New York, on the 29th day of March, 1920, and the Order of Reversal of said judgment of the Appellate Division of the Supreme Court for the First Department, said last named order being made on the 25th day of July, 1922:)

"New York Supreme Court, New York County

Kings County Lighting Company, Plaintiff,

against

Charles D. Newton, as Attorney-General of the State of New York; Lewis Nixon, Constituting the Public Service Commission of the State of New York for the First District, and the City of New York, Defendants

"The issues herein coming on to be tried by this Court at a Special Term thereof, in Part IV, held by me without a jury, and having begun the trial thereof on the 10th day [fol. 1379] of October, 1919, and completed the same on 21st day of April, 1919, and all the allegations and evidence of the respective parties having been heard therein,

"Now, after hearing Messrs. Ingraham, Sheehan & Moran (Samuel F. Moran, of counsel) for plaintiff; Robert S. Conklin, for the Attorney General; Godfrey Goldmark (Oliver C. Semple, of counsel), for the Public Service Commission for the First District; William P. Burr, Corporation Counsel (John P. O'Brien, Joseph P. Morrissey and Judson Hyatt, of counsel), for defendant, the City of New York, I decide and find as follows:

Findings of Fact

"First. The predecessor of the plaintiff, the Kings County Gas and Illuminating Company, was incorporated in December, 1889, and at about the same time, to wit: December 26th, 1889, obtained an agreement from the Town of New Utrecht, County of Kings, State of New York, authorizing the Kings County Gas and Illuminating Com-

pany to furnish light by gas to the highways of said town for a period of ten years at an annual rate per lamp lighted per year of $28.00, and to furnish gas to public and private consumers in buildings at a rate of $2.25 per thousand [fol. 1380] cubic feet. This agreement was extended on March 19th, 1891, to cover a further period of fifteen years concurrent with which was a reduction in the rate for lighting public buildings and also in the rate of gas furnished to private consumers which was changed to $1.75 per thousand cubic feet.

"Third. The Kings County Gas and Illuminating Company was authorized by its certificate of incorporation to issue $1,000,000 of capital stock, and it did issue $750,000 in bonds secured by first mortgage on the property of the company. The stock, except $300,000 in cash and first mortgage bonds to the face value of $550,000, by the first of January, 1893, were transferred to one George E. Bartlett in consideration of certain land transferred by him to said company and to secure the performance and completion by him of construction contracts and the furnishing and installation of mains and certain apparatus for the use of said company.

"Fourth. The Town of New Utrecht was annexed to the City of Brooklyn in 1894, by virtue of Chapter 451, Laws of 1894. Upon such annexation the company became subject to the provisions of Section 70, Chapter 566 of [fol. 1381] the Laws of 1890, which fixed $1.25 per thousand cubic feet as the maximum rate for gas sold to the private consumer in cities of the first class. By Chapter 125 of the Laws of 1906, the Legislature enacted that on and after May 1st, 1906, the charge for gas in the Thirtieth Ward of Brooklyn should not exceed $1.00 per thousand cubic feet. That act was amended by Chapter 604 of the Laws of 1916, which finally fixed the maximum rate on and after July 1st, 1916, for the Boroughs of Manhattan and Brooklyn at 80 cents per thousand cubic feet.

"Fifth. That by January 21st, 1893, the entire capital stock of said company had been issued, and $549,000 of first mortgage bonds of said company issued.

"Sixth. That the Kings County Gas and Illuminating Company began to furnish light to consumers on September

2nd, 1891. It bought all gas from other gas light companies, first from the Citizens' Gas Company, up to 1900, and later from the Brooklyn Union Gas Company at 65 cents per thousand cubic feet.

"Ninth. That during the year 1892 the Kings County Gas and Illuminating Company had as private customers not much more than 150 consumers, and until about 1900 the said company had not more than 200 consumers; in [fol. 1382] 1901 it had about 3,000 consumers; in 1902, it had about 3,500 consumers and in 1904, it had 4,000 consumers.

"Tenth. That some time during the years 1895 and 1896 the Kings County Gas and Illuminating Company became, by conveyance, seized of a block of land at 55th Street and First Avenue, City of Brooklyn, fronting on New York Bay, the total consideration of which, including cash and mortgage was $119,500, of which $35,500 was paid in cash and the balance of $84,000 by the execution of a purchase money mortgage for that amount.

"Eleventh. That in August, 1899, the Kings County Gas and illuminating Company, authorized the issuance of $250,000.00 face value debenture bonds, payable in 10 years, carrying, an obligation of interest at 5%. That with funds realized on the sale of said bonds it began building a plant for the manufacture of gas by the coal gas method and began the manufacture and sale of this product in the fall of 1900.

"Thirteenth. That the actual cost of the land of the Kings County Gas and Illuminating Company at 55th Street and First Avenue, City of Brooklyn, had been [fol. 1383] $119,500 and that the cost in face value of bonds of said company of the land of said company at 65th Street and Ninth Avenue, City of Brooklyn, was $20,000.

"Eighth. That on April 1, 1902, the book value of the "Permanent Investment" account of the books of Kings County Gas and Illuminating Company, as debited to "Construction," was $2,291,653.46 and that by June 30, 1904, the same book account was increased to $2,441,997.40, being an increase of $150,344.04, as per the books of said company.

[fol. 1384] "Ninth. That the merger of the Kings County Gas and Illuminating Company with the Kings County Lighting Company was effected by an offer made by Edward J. E. Ward, a stockholder of the former company, on June 10th, 1904, to sell and transfer to the Kings County Lighting Company 10,000 shares of the par value of $100 each of the capital stock of the Kings County Gas and Illuminating Company, being the total authorized and outstanding capital stock of the company in consideration of the transfer of $2,000,000.00 par value of common stock and $1,112,000 five per cent Gold Mortgage Bonds of the Kings County Lighting Company secured by a first mortgage on all of the property of the latter company, subject only to a mortgage of the Kings County Gas and Illuminating Company, to the People's Trust Company of Brooklyn, under which $750,000.00 of bonds were issued and outstanding the bonds of the Kings County Lighting Company so transferred to be part of a total authorized issue of $5,000,000.00 and to be payable on July 1st, 1954, unless previously thereto, and on or after the first day of January, 1940, redeemed at 105 and accured interest. This offer, so made, [fol. 1385] was performed. There was delivered by the Kings County Lighting Company as consideration for said transfer 20,000 shares of the par value of $100 each, of the capital stock of the Kings County Lighting Company, and $1,112,000.00 of its bonds, secured by a mortgage to the Central Trust Company of New York bearing interest at the rate of 5 per cent. per annum.

"Tenth. That on the 30th of June, 1904 the Kings County Gas and Illuminating Company closed its books with a "Capital Account" or "Permanent Investment" account, showing a book value of permanent investment to be $2,441,997.40.

"Eleventh. That on July 1st, 1904, the plaintiff in this case began business with the value of its "Permanent Investment" or "Capital" account set down as $4,482,936.97, thus increasing the book value of the "Permanent Investment" over that of its predecessor to the amount approximately of $2,040,939.57. (See Cohen testimony and Exhibit.)

"Twelfth. The gross "Permanent Investment" expenditures, which include all expenditures due to additions by

purchase to the Fixed Capital" of the plaintiff according to its books, did not exceed, approximately the sum of $1,606,805.12 during the period between July 1st, 1904 and [fol. 1386] October 31st, 1918, as per plaintiff's books. Cohen testimony and Exhibit.)

Thirteenth. That since July 1st, 1904, the plaintiff herein had received all the benefits, returns, and rights which obtained under the contract made by the Town of New Utrecht with the Kings County Gas and Illuminating Company, dated December 26, 1889, which said contract expired in September, 1916. (Admitted.)

"Fourteenth. That on June 30th, 1904, the Kings County [fol. 1387] Gas and Illuminating Company closed its books with a charge to capital account of assets in hand of approximately $2,586,777 68. That the plaintiff began business on July 1st, 1904, with a charge to the same account of assets in hand of approximately $4,846,772.68, an increase of $2,259,995.00. This increase did not represent additions to the "Fixed Capital" of plaintiff's plant. (Cohen testimony and exhibit.)

[fol. 1388] Fifteenth. That the Kings County Gas and Illuminating Company, the predecessor of the plaintiff, manufactured gas by the coal gas method, and later adopted the water gas method, without making substantial changes in the plant.

[fol. 1389] "An appeal having been duly taken to this court by the plaintiff, Kings County Lighting Company, from the judgment of the Supreme Court entered herein in the office of the Clerk of the County of New York on the 29th day of March 1920, and said appeal having been argued by Samuel F. Moran, Esq., for the appellant, Kings County Lighting [fol. 1390] Company, Wilbur W. Chambers, Esq., for the respondent, Charles D. Newton, as Attorney General of the State of New York, Oliver C. Semple, Esq., for the respondent, Public Service Commission of the State of New York, and John P. O'Brien, Esq., for the respondent, The City of New York, and due deliberation having been had thereon, it is unanimously ordered:

First. That the judgment so appealed from be and the same hereby is in all respects reversed, with costs to the appellant Kings County Lighting Company.

Second. That the findings of fact contained in the decision herein, numbered respectively second, twelfth, fifteenth, sixteenth, eighteenth, twenty-sixth, twenty-seventh, twenty-eighth, thirty-seventh, thirty-eighth, thirty-ninth, fortieth, forty-first, forty-third, forty-fourth, forty-fifth, forty-ninth, fiftieth, fifty-first, fifty-third, fifty-fourth, fifty-fifth, fifty-sixth, fifty-seventh, fifty-eighth, fifty-ninth, sixtieth, sixty-first, sixty-second, sixty-third, sixty-fourth, sixty-fifth, sixty-sixth, sixty-seventh, sixty-eighth, sixty-ninth, seventieth, seventy-first, seventy-second, seventy-[fol. 1391] fifth, seventy-sixth, seventy-seventh, seventy-eighth, seventy-ninth, eightieth, eighty-first, eighty-second, eighty-third, eighty-fourth, eighty-fifth, eighty-sixth, eighty-seventh, eighty-eighth, eighty-ninth, ninetieth, ninety-first, ninety-second, ninety-fourth, ninety-fifth, ninety-seventh, ninety-eighth, ninety-ninth, one hundred, one hundred first, one hundred second, one hundred third, one hundred fourth, one hundred seventh, one hundred eighth, one hundred tenth, one hundred eleventh and one hundred twelfth, and each of them, be and the same hereby are in all respects disapproved, reversed and annulled. The fifty-second is hereby modified by striking therefrom the last sentence.

"Third. That the conclusions of law contained in the decision herein and numbered respectively 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20, and each of them, be and the same hereby are in all respects disapproved, reversed and annulled.

Fourth. That this Court make, and hereby does make, the following findings of fact:

I. In the calendar year 1916, there were consumed by plaintiff's private consumers 852,302,000 cubic feet of gas, and by the City of New York in municipal buildings and street lamps 82,104,168 cubic feet. The revenue from such [fol. 1392] sales to private consumers at 80 cents per one thousand cubic feet would amount to $681,841.60, and from the sales to the city at 75 cents per one thousand cubic feet would amount to $61,578, or a total revenue from the sale of gas of $743,419.60. The actual and necessary cost to plaintiff of manufacturing and distributing the gas sold as aforesaid in the calendar year 1916, was $644,667.29, leav-

ing available for return upon the property employed in the service $98,752.31.

II. In the calendar year 1917, there were consumed by plaintiff's private consumers 977,119,372 cubic feet of gas, and by the City of New York in municipal buildings and street lamps 70,300,430 cubic feet. The revenue from such sales to private consumers at 80 cents per one thousand cubic feet would amount to $781,695.49, and from the sales to the city 75 cents per one thousand cubic feet would amount to $52,725.32, or a total revenue from the sale of gas of $834,420.81. The actual and necessary cost to plaintiff of manufacturing and distributing the gas sold as aforesaid in the calendar year 1917, was $700,848.92, leaving available for return upon the property employed in the service $133,571.89.

III. In the calendar year 1918, there were consumed by plaintiff's private consumers 1,179,104,600 cubic feet of [fol. 1393] gas, and by the City of New York in municipal buildings and street lamps 53,743,336 cubic feet. The revenue from such sales to private consumers at 80 cents per one thousand cubic feet would amount to $943,283.68, and from the sales to the City at 75 cents per one thousand cubic feet would amount to $40,307.50, or a total revenue from the sale of gas of $983,591.18. The actual and necessary cost to the plaintiff of manufacturing and distributing the gas sold as aforesaid in the calendar year 1918 was $979,756.59, leaving available for return upon the property employed in the service $3,834.59.

IV. The actual and necessary cost to plaintiff of manufacturing and distributing gas stated above includes, in addition to the expenditures for repairs currently made to its plant and facilities, in the year 1916 two cents, and in the years 1917 and 1918 one cent, per thousand cubic feet of gas sold, to provide for the renewal or replacement of property retired from service; through and by means of the repairs, renewals and replacements so provided for and made, plaintiff's plant and facilities have been adequately maintained and kept in an efficient operating condition and the plaintiff has not deducted any reserve for depreciation. [fol. 1394]

"V. The value of the said plant and facilities employed by plaintiff in the manufacturing and distribution of gas at all times after January 1, 1916, was in excess of $3,000,000; but it is unnecessary for the purposes of this case to determine the actual fair and reasonable value of the said plant and facilities upon which plaintiff is entitled to a fair and reasonable return commensurate with that enjoyed by capital otherwise employed, nor is it necessary to determine the rate of return which would be fair and reasonable.

"VI. The plaintiff's revenue available for return under the 80 cent rate to private consumers, and the 75 cent rate to the City of New York for the three years 1916, 1917 and 1918, was $236,158.79, or a yearly average of $78,719.59 which is but slightly in excess of 2 6/10th per cent per annum on the minimum value of the property stated aforesaid.

"VII. The cost to plaintiff of manufacturing and distributing gas was greater at the close of the testimony in this case in April, 1919, than in the year 1918, due to the higher prices then necessarily paid for gas-oil, coal and labor, and there was then no indication that there would be any recession in such cost in the future. On the contrary, [fol. 1395] every indication warranted the conclusion that the cost of manufacturing and distributing gas would increase, as in fact it did increase for at least the years 1919 and 1920, as appears from the findings made by the United States District Court for the Southern District of New York in the suit brought by this plaintiff to enjoin the enforcement of the statute fixing 80 cents per one thousand cubic feet as the maximum price for gas (268 Fed. 143, affirmed U. S. Supreme Court, 42 Sup: Ct. Reporter, 268).

"VIII. At no time since the effective date of Chapter 604 of the Laws of 1916, to wit, July 1st, 1916, was 80 cents per one thousand cubic feet an adequate or reasonable rate or price for gas supplied by plaintiff.

Fifth. That plaintiff have judgment adjudging and decreeing that Chapter 125 of the Laws of 1906, as amended by Chapter 604 of the laws of 1916, in so far as such amended statute limited or limits the rate to be charged for gas supplied by plaintiff in the territory served by it,

was from the date of its enactment, and continued to be, confiscatory, and its enforcement would deprive plaintiff of its property with due process of law, contrary to the [fol. 1396] Fourteenth Amendment to the Constitution of the United States and Section 6, Article I, of the Constitution of the State of New York, and restraining and enjoining the defendants Charles D. Newtown, as Attorney General of the State of New York, and the Public Service Commission of the State of New York, and each of them, their and each of their successors, attorneys, agents, assistants, deputies, servants and employees from enforcing the provisions of said Chapter 125 of the Laws of 1906 as so amended, with respect to the rates or prices to be charged by plaintiff for gas supplied, or to be supplied, by it, and from instituting, or causing to be instituted any suit, action or proceeding to enforce said statute, and from taking any action under the Public Service Commission Law of the State of New York, or any other statute or law of said state, to compel or enforce obedience to, or to exact penalties for non-compliance with said amended statute of 1906 in so far as it fixes or prescribes the rate to be charged by plaintiff, with costs to plaintiff to be taxed."

[fol. 1397] DEFENDANTS' EXHIBIT NO. 21

Kings County Lighting Company

Net Fixed Capital Additions

1904 to 1910

	Since 1908	Prior to 1908	Total
1904		$6,491 90	$6,491 90
1905		51,233 37	51,233 37
1906		107,580 83	107,580 83
1907		79,827 17	79,827 17
1908		208,520 63	208,520 63
1909	$117,787 33	6,399 45 R.	111,387 88
1910	84,011 66	2,974 20 R.	81,037 46
	$201,798 99	$444,280 25	$646,079 24

[fol. 1398] DEFENDANTS' EXHIBIT No. 22

Sheet 1

Before Special Master, Hon. Almeth W. Hoff

Kings County Lighting Company

Opening Journal Entry July 1st, 1904

Sundries—To Sundries:

Permanent Investment	$4,482,936 97	
Gas Stoves	622 57	
Arc lamps	976 15	
Pipe and fittings	6,683 71	
Stable account	1,000 00	
Furniture and Fixtures	800 00	
Bills Receivable	35,000 00	
E. J. E. Ward	4,529 72	
Bituminous Coal	1,240 07	
Anthracite coal	2,742 57	
Gas Oil	4,297 45	
Cash	22,251 04	
Gas bills	24,679 30	
Stove rentals	2,789 55	
City of New York gas a/c	29,862 94	
City of New York	2,513 50	
Accounts Receivable	221,130 79	
Tar account	216 35	
Sheehan and Collins	1,000 00	
T. E. Byrne, Supt.	500 00	
W. G. Phillips, Treas.	500 00	
A. J. Fogarty, Cashier	500 00	
Capital stock		2,000,000 00
First Mortgage bonds		750,000 00
Debenture bonds		250,000 00
First Refunding mortgage bonds		1,333,000 00
City Water Accounts		154 13
Accounts Payable		15,749 24

Bills Payable		112,500 00
Meter deposits		35,042 21
Credit Bal. Meter Dept.		192 25
Main deposits		100 00
Taxes payable		18,777 21
Labor		1,742 47
Coupon 28 due Oct. 1, 1904		9,375 00
Profit and Loss		320,140 17
	$4,846,772 68	$4,846,772 68

Sheet 2

Kings County Lighting Company

Statement of Assets and Liabilities of the Kings County Gas and Illuminating Company as of June 30, 1904, as reported to the Board of Tax Commissioners, New York State

Assets:

Cost of real estate, improvement and equipment	$2,441,997 40
Materials and Supplies	19,693 82
Accounts and Bills Receivable	102,835 42
Cash on hand	22,251 04
Total	$2,586,777 68

Liabilities:

Capital Stock	$1,000,000 00
Funded Debt	1,000,000 00
Accounts and bills payable	176,231 96
Interest on funded debt	9,375 00
Profit and Loss	401,170 72
	$2,586,777 68

Opening Balance Sheet of Kings County Lighting Co., July 1, 1904

Assets:		Liabilities:	
Permanent Investment	$4,482,936 97	Capital Stock	$2,000,000 00
Office and stable equipment	1,800 00	First Mortgage Bonds	750,000 00
Materials and Supplies	16,778 87	Debenture Bonds	250,000 00
Bills Receivable	35,000 00	First Refunding mtge bonds	1,333,000 00
Accounts Receivable	67,005 80	Meter and Main Deposits	35,334 46
Cash	22,251 04	Bills Payable	112,500 00
Treasury bonds (A)	221,000 00	Accounts Payable	36,423 05
		Interest on funded debt	9,375 00
		Profit and Loss	320,140 17
	$4,846,772 68		$4,846,772 68

(a) Appears as accounts receivable on books.

[fol. 1400]

Sheet 3

Before Special Master, Hon. Almeth W. Hoff

Kings County Lighting Company

Comparative Balance Sheet June 30, 1904 and July 1, 1904 of Vendor and Vendee Companies

	Kings County Gas and Illuminating Co. June 30, 1904.	Kings County Lighting Co. July 1, 1904.	Increase or D, Decrease.
Assets:			
Cost of real estate, improvement and equipment, (Permanent investment, etc.)	$2,441,997 40	$4,484,736 97	$2,042,739 57
Materials and Supplies	19,693 82	16,778 87	D 2,914 95
Bills Receivable and Accounts Rec.	102,835 42	102,005 80	D 829 62
Accounts Receivable (Treasury bonds)		221,000 00	221,000 00
Cash	22,251 04	22,251 04	
	$2,586,777 68	$4,846,772 68	$2,259,995 00
Liabilities and Capital:			
Capital Stock	$1,000,000 00	$2,000,000,00	$1,000,000 00
Funded Debt	1,000,000 00	2,333,000 00	1,333,000 00
Accounts and Bills Payable & deposits	176,231 96	184,257 51	8,025 55
Interest on funded debt	9,375 00	9,375 00	
Profit and Loss	401,170 72	320,140 17	D 81,030 55
	$2,586,777 68	$4,846,772 68	$2,259,995 00

[fol. 1401] DEFENDANTS' EXHIBIT No. 23

Kings County Lighting Company

Fixed Capital Additions—1911 (Exclusive of Land)

Classification	Gross additions	Retirements	Net additions
Water Rights	.....	750.00	R750.00
Organization	.....	.....	.....
Franchises—Gas	.....	.....	.....
Patent Rights Gas	.....	.....	.....
Other Intangible Gas	.....	.....	.....
General Structures	.....	.....	.....
General Equipment	882.77	.....	882.77
Works & Station Structures	47,724.38	.....	47,724.38
Holders	.....	.....	.....
Furnaces Boilers & Acc	269.35	.....	269.35
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt	3,952.03	.....	3,952.03
Benches and Retorts	.....	.....	.....
Water Gas Sets & Acc	53.96	.....	53.96
Purification Apparatus	19,006.17	.....	19,006.17
Accessory Equipt. at Works	.....	.....	.....
Trunk Lines & Mains	45,313.97	58.17	45,255.80
Gas Services	13,764.86	14.12	13,750.74
Gas Meters	14,757.37	10.91	14,746.46
Gas Meter Installation	7,500.49	.....	7,500.49
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines & Appliances	.....	152.94	R 152.94
Gas Tools and Implements	.....	.....	.....
Gas Laboratory Equipt.	.....	.....	.....
Other Tangible Gas Capital	.....	.....	.....
Engineering and Supt.	3,025.00	.....	3,025.00
Law Expenditures Construction	.....	.....	.....
Injuries During Construction	.....	.....	.....
Taxes During Construction	.....	.....	.....
Interest During Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total	$156,250.35	$986.14	$155,264.21

R—Red.

[fol. 1402] DEFENDANTS' EXHIBIT No. 24

Kings County Lighting Company

Fixed Capital Additions—1912 (Exclusive of Land)

Classification	Gross additions	Retirements	Net additions
Other Land	.....	.....	.....
Organization	.....	.....	.....
Franchises Gas	.....	.....	.....
Patent Rights Gas	.....	.....	.....
Other Intangible Gas	.....	.....	.....
General Structures	.....	.....	.....
General Equipment	2,121.38	473.00	1,648.38
Works & Station Structures	494.94	.....	494.94
Holders	.....	.....	.....
Furnaces Boilers & Acc.	2,064.72	.....	2,064.72
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	1,088.04	.....	1,088.04
Benches and Retorts	.....	.....	.....
Water Gas Sets and Acc.	2,836.74	.....	2,836.74
Purification Apparatus	.....	.....	.....
Accessory Equipt. at Works	2,409.59	.....	2,409.59
Trunk Lines and Mains	19,019.72	4.58	19,015.14
Gas Services	15,710.82	.....	15,710.82
Gas Meters	11,594.12	5.05	11,589.07
Gas Meter Installation	5,120.13	.....	5,120.13
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines & Appliances	513.60	198.00	315.60
Gas Tools and Implements	72.25	.....	72.25
Gas Laboratory Equipt.	.....	.....	.....
Other Tangible Gas Capital	.....	.....	.....
Engineering and Supt.	3,900.00	.....	3,900.00
Law Expenditures Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expend.	.....	.....	.....
Total	$66,946.05	$680.63	$66,265.42

[fol 1403] DEFENDANTS' EXHIBIT No. 25

Kings County Lighting Company

Fixed Capital Additions—1913 (Exclusive of Land)

Classification	Gross additions	Retirements	Net additions
Organization	.....	.....	.....
Franchises Gas	.....	.....	.....
Patent Rights Gas	.....	.....	.....
Other Intangible Gas	.....	.....	.....
General Structures	20,097.35	.....	20,097.35
General Equipment	4,290.92	1,200.00	3,090.92
Works & Station Structures	31,907.04	.....	31,907.04
Holders	.....	.....	.....
Furnaces Boilers & Acces.	5,705.81	.....	5,705.81
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equip.	313.25	.....	313.25
Benches and Retorts	.....	.....	.....
Water Gas Sets and Acces.	916.39	.....	916.39
Purification Apparatus	51,494.81	.....	51,494.81
Accessory Equipt. at Works	18,721.25	.....	18,721.25
Trunks Lines and Mains	47,883.13	304.55	47,578.58
Gas Services	7,735.09	.....	7,735.09
Gas Meters	16,160.20	304.87	15,855.33
Gas Meter Installation	2,620.31	.....	2,620.31
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	1,014.81	222.56	792.25
Gas Tools and Implements	388.81	.....	388.81
Gas Laboratory Equipt.	.....	.....	.....
Other Tangible Gas Capital	.....	.....	.....
Engineering and Supt.	R 3,900.00	.....	R 3,900.00
Law Expenditures Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	3,160.50	.....	3,160.50
Misc. Construction Expend.	.....	.....	.....
Total	$208,509.67	$2,031.98	$206,477.69

R—Red.

[fol. 1404] DEFENDANTS' EXHIBIT No. 26

Kings County Lighting Company

Fixed Capital Additions—1914 (Exclusive of Land)

Classification	Gross additions	Retirements	Net additions
Organization	.....	.....	.....
Franchises Gas	.....	.....	.....
Patent Rights Gas	.....	.....	.....
Other Intangible Gas	.....	.....	.....
General Structures	17,801.46	.....	17,801.46
General Equipment	10,063.79	3,187.50	6,876.29
Works & Station Structures	49,516.90	.....	49,516.90
Holders	.....	.....	.....
Furnaces Boilers & Acces.	4,423.48	.....	4,423.48
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	.....	.....	.....
Benches and Retorts	.....	.....	.....
Water Gas Sets and Acces.	28,358.52	.....	28,358.52
Purification Apparatus	397.35	.....	397.35
Accessory Equipt. at Works	36.34	.....	36.34
Trunk Lines and Mains	44,336.41	234.29	44,102.12
Gas Services	10,151.62	38.16	10,113.46
Gas Meters	10,803.17	25.65	10,777.52
Gas Meter Installation	3,846.45	.....	3,846.45
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	580.54 / *R 1,274.25	311.31	R 1,005.08
Gas Tools and Equipt.	160.69	.....	160.69
Gas Laboratory Equipt.	20.00	.....	20.00
Other Tangible Gas Capital	.....	.....	.....
Engineering and Supt.	R 7,275.00	.....	R 7,275.00
Law Expenditures Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	R 3,160.50	.....	R 3,160.50
Total	$168,786.97	$3,796.91	$164,990.06

*Adjusted so that only leased appliances appear in balance $1,274.25 new debit balance.
R—Red.

[fol. 1405] DEFENDANTS' EXHIBIT No. 27

Kings County Lighting Company

Fixed Capital Additions—1915 (Exclusive of Land)

Classification	Gross additions	Retirements	Net additions
Organization	.....	.....	.....
Franchises	.....	.....	.....
Patent Rights—Gas	.....	.....	.....
Other Intangible—Gas	.....	.....	.....
General Structures	458.78	.....	458.78
General Equipment	1,371.22	569.50	801.72
Works and Station Structures	15,074.11	.....	15,074.11
Holders	.....	.....	.....
Furnaces Boilers and Acces.	242.04	.....	242.04
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	631.00	.....	631.00
Benches and Retorts	.....	.....	.....
Water Gas Sets and Acces.	776.14	.....	776.14
Purification Apparatus	.....	.....	.....
Accessory Equipt. at Works	563.79	.....	563.79
Trunk Lines and Mains	48,748.72	771.48	47,977.24
Gas Services	14,381.90	13.80	14,368.10
Gas Meters	13,148.34	.....	13,148.34
Gas Meter Installation	3,821.73	.....	3,821.73
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	158.00	.....	158.00
Gas Tools and Implements	19.95) R 37.00)	.....	R 17.05
Gas Laboratory Equipt.	.....	.....	.....
Other Tangible Gas Capital	.....	.....	.....
Engineering and Supt.	250.00	.....	250.00
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total	$99,608.72	$1,354.78	$98,253.94

R—Red.

[fol. 1406] DEFENDANTS' EXHIBIT No. 28

Kings County Lighting Company

Fixed Capital Additions—1916 (Exclusive of Land)

Classification	Gross additions	Retirements	Net additions
Organization	.....	.....	.....
Franchises—Gas	.....	.....	.....
Patent Rights—Gas	.....	.....	.....
Other Intangible—Gas	.....	.....	.....
General Structures	.....	15.50	R 15.50
General Equipment	544.00	109.00	435.00
Works & Station Structures	553.49	.....	553.49
Holders	20.10	.....	20.10
Furnaces Boilers & Acces	1,537.33	294.06	1,243.27
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	.....	.....	.....
Benches and Retorts	.....	.....	.....
Water Gas Sets and Acces	2,214.77	525.00	1,689.77
Purification Apparatus	.....	.....	.....
Accessory Equipt. at Works	858.34	.....	858.34
Trunk Lines and Mains	15,994.10	352.79	15,641.31
Gas Services	22,978.86	50.96	22,927.90
Gas Meters	19,870.20	10.26	19,859.94
Gas Meter Installation	7,116.79	79.80	7,036.99
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	777.90	.....	777.90
Gas Tools and Impliments	.....	.....	.....
Gas Laboratory Equipt.	5.88	.....	5.88
Other Tangible Gas Capital	.....	.....	.....
Engineering and Supt.	.....	.....	.....
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total	$72,471.85	$1,437.37	$71,034.48

R—Red.

[fol. 1407] DEFENDANTS' EXHIBIT No. 29

Kings County Lighting Company

Fixed Capital Additions—1917 (Exclusive of Land)

Classification	Gross additions	Retirements	Net additions
Organization	.....	.....	.....
Franchises—Gas	.....	.....	.....
Patent Rights—Gas	.....	.....	.....
Other Intangible—Gas	.....	.....	.....
General Structures	329.23	15.50	313.73
General Equipment	9,537.71	2,438.55	7,099.16
Works and Station Structures	951.22	.....	951.22
Holders	.....	.....	.....
Furnaces, Boilers and Acc.	2,733.39	.....	2,733.39
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	675.00	.....	675.00
Benches and Retorts	.....	.....	.....
Water Gas Sets and Access.	8,495.84	.....	8,495.84
Purification Apparatus	.....	.....	.....
Accessory Equipt. at Works	3,029.90	.....	3,029.90
Trunk Lines and Mains	2,216.54	61.03	2,155.51
Gas Services	11,966.77	309.38	11,657.39
Gas Meters	22,502.23	96.77	22,405.46
Gas Meter Installation	6,505.21	19.43	6,485.78
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	285.42	2,483.57	R 2,198.15
Gas Tools and Implements	239.99	.....	239.99
Gas Laboratory Equipt.	421.47	.....	421.47
Other Tangible Gas Capital	.....	.....	.....
Engineering and Supt.	817.31	817.31	.....
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expend.	.....	.....	.....
Total	$70,707.23	$6,241.54	$64,465.69

R—Red.

[fol. 1408] DEFENDANTS' EXHIBIT No. 30

Kings County Lighting Company

Fixed Capital Additions—1918 (Exclusive of Land)

Classification	Gross additions	Retirements from service	Net additions
Organizations	.....	.....	.....
Franchises—Gas	.....	.....	.....
Patent Rights—Gas	.....	.....	.....
Other Intangible Gas Capital	.....	.....	.....
General Structures	2,265.58	.....	2,265.58
General Equipment	13,028.14	6,899.85	6,128.29
Works & Station Structures	45,148.46	1,710.50	43,437.96
Holders	.....	.....	.....
Furnaces Boilers & Acc.	3,015.64	390.49	2,625.15
Steam Engines	.....	.....	.....
Gas Engines	13.56	.....	13.56
Misc. Power Plant Equipt.	.....	.....	.....
Benches and Retorts	.....	.....	.....
Water Gas Sets and Accessories	1,527.90	2,865.25	R 1,337.35
Purification Apparatus	.....	.....	.....
Accessory Equipt. at Works	17,070.49	289.00	16,781.49
Trunk Lines and Mains	4,261.28	.....	4,261.28
Gas Services	11,769.65	.....	11,769.65
Gas Meters	11,716.34	89.67	11,626.67
Gas Meter Installation	4,003.29	.....	4,003.29
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	.....	.....	.....
Gas Tools and Implements	183.69	.....	183.69
Gas Laboratory Equipt.	.....	.....	.....
Other Tangible Gas Capital	.....	.....	.....
Engineering and Supt.	.....	.....	.....
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total	$114,004.02	$12,244.76	$101,759.26

R—Red.

[fol. 1409] DEFENDANTS' EXHIBIT No. 31

Kings County Lighting Company

Fixed Capital Additions—1919 (Exclusive of Land)

Classification	Gross additions	Retirements from service	Net. additions
Organization	.....	.....	.....
Franchises—Gas	.....	.....	.....
Patent Rights—Gas	.....	.....	.....
Other Intangible Gas Capital	.....	.....	.....
General Structures	1,149.21	.....	1,149.21
General Equipment	11,517.89	1,355.00	10,162.89
Works & Station Structures	3,962.48*	765.00	3,197.48
Holders	49.60	.....	49.60
Furnaces Boilers & Acc.	59,748.80	2,200.00	57,548.80
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	.....	.....	.....
Benches and Retorts	.....	.....	.....
Water Gas Sets and Acc.	503.93	80.00	423.93
Purification Apparatus	.....	.....	.....
Accessory Equipt. at Works	33,822.70	1,700.00	32,122.70
Trunk Lines and Mains	13,339.77	299.40	13,040.37
Gas Services	49,060.23	.....	40,060.23
Gas Meters	28,559.57	45.97	28,513.60
Gas Meter Installation	8,173.98	.....	8,173.98
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	.....	.....	.....
Gas Tools and Implements	.....	.....	.....
Gas Laboratory Equipt.	160.14	.....	160.14
Other Tangible Gas Capital	.....	.....	.....
Engineering and Superintendence	.....	.....	.....
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total	$210,048.30	$6,445.37	$203,602.93

*Adjustment.

[fol. 1410] DEFENDANTS' EXHIBIT No. 32

Kings County Lighting Company

Fixed Capital Additions—1920 (Exclusive of Land)

Classification	Gross additions	Retirements from service	Net additions
Organization	.....	.....	.....
Franchises—Gas	.....	.....	.....
Patent Rights—Gas	.....	.....	.....
Other Intangible Gas Capital	.....	.....	.....
General Structures	560.71	40.73	519.98
General Equipment	11,718.38	2,433.05	9,285.33
Works and Station Structures	18,800.96	.....	18,800.96
Holders	1,562.17	.....	1,562.17
Furnaces, Boilers and Acc.	15,893.24	1,250.00	14,643.24
Steam Engines	.....	.....	.....
Gas Engines	35.65	.....	35.65
Misc. Power Plant and Equipt.	1,071.00	.....	1,071.00
Benches and Retorts	.....	.....	.....
Water Gas Sets and Accessories	30,080.75	600.00	29,480.75
Purification Apparatus	6,155.99	.....	6,155.99
Accessory Equipt.—Works	24,012.89	.....	24,012.89
Trunk Lines and Mains	25,839.93	.....	25,839.93
Gas Services	20,489.56	119.28	20,370.28
Gas Meters	22,688.42	*583.22 153.26	21,951.94
Gas Meter Installation	8,235.66	.....	8,235.66
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	.....	.....	.....
Gas Tools and Implements	409.64	.....	409.64
Gas Laboratory Equipment	671.84	.....	671.84
Other Tangible Gas Capital	.....	.....	.....
Engineering and Superintendence	.....	.....	.....
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total	$188,226.79	$4,596.32	$183,047.25

*Adjustment.
*583.22

[fol. 1411] DEFENDANTS' EXHIBIT No. 33

Kings County Lighting Company

Fixed Capital Additions—1921 (Exclusive of Land)

Classification	Gross additions	Retirements from service	Net additions
Organization	.....	.....	.....
Franchises (Gas)	.....	.....	.....
Patent Rights (Gas)	.....	.....	.....
Other Intangible Gas Capital	.....	.....	.....
General Structures	61.13	.....	61.13
General Equipment	16,681.94	4,616.19	12,065.75
Works and Station Structures	3,451.49	.....	3,451.49
Holders	522.43	.....	522.43
Furnaces Boilers and Acc.	6,112.55	.....	6,112.55
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	41.40	.....	41.40
Benches and Retorts	.....	.....	.....
Water Gas Sets and Acc.	5,556.70	.....	5,556.70
Purification Apparatus	427.60	.....	427.60
Acc. Equipt. at Works	391.59	500.00	R 108.41
Trunk Lines and Mains	50,649.53	.....	50,649.53
Gas Services	103,026.99	86.46	102,940.53
Gas Meters	53,249.74	60.47	53,189.27
Gas Meter Installation	30,528.71	.....	30,528.71
Municipal Street Ltg. Fix.	.....	.....	.....
Gas Engines and Appliances	.....	.....	.....
Gas Tools and Implements	706.69	.....	706.69
Gas Laboratory Equipt.	1,987.17	.....	1,987.17
Other Tangible Gas Capital	.....	.....	.....
Engineering and Superintendence	.....	.....	.....
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total	$273,395.66	$5,263.12	$268,132.54

R—Red.

[fol. 1412] DEFENDANTS' EXHIBIT No. 34

Kings County Lighting Company

Fixed Capital Additions—1922 (Exclusive of Land)

Classification	Gross additions	Retirements from service	Net additions
Organization	4,083.02	.....	4,083.02
Franchises (Gas)	.....	.....	.....
Patent Rights (Gas)	.....	.....	.....
Other Intangible Gas Capital	.....	.....	.....
General Structures	105.24	.....	105.24
General Equipment	16,389.81	7,159.06	9,230.75
Works and Station Structures	272,352.15	250.00	272,102.15
Holders	11,007.03	150.00	10,857.03
Furnaces Boilers and Access.	229,973.30	1,612.16	228,361.14
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	129,307.29	768.00	128,539.29
Benches and Retorts	.....	.....	.....
Water Gas Sets and Access.	289,696.15	8,026.21	281,669.94
Purification Apparatus	128,935.94	696.85	128,239.09
Accessory Equipt. at Works	12,306.53	.....	12,306.53
Trunk Lines and Mains	89,102.96	375.00	88,727.96
Gas Services	83,709.08	131.07	83,578.01
Gas Meters	82,751.82	140.31	82,611.51
Gas Meter Installation	11,370.33	.....	11,370.33
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	.....	.....	.....
Gas Tools and Implements	1,946.50	135.00	1,811.50
Gas Laboratory Equipt.	1,577.30	.....	1,577.30
Other Tangible Gas Capital	.....	.....	.....
Engineering and Superintendence	.....	.....	.....
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total	$1,364,614.45	$19,443.66	$1,345,170.79

[fol. 1413] DEFENDANT'S EXHIBIT No. 35

Kings County Lighting Company

Fixed Capital Additions to May 31, 1923 (Exclusive of Land)

Classification	Gross additions	Retirements from service	Net additions
Organization	.....	.....	.....
Franchises	.....	.....	.....
Patent Rights Gas	.....	.....	.....
Other Intangible Capital	.....	.....	.....
General Structures	.....	.....	.....
General Equipment	7,259.85	8,567.87	R 1,308.02
Works Station Structures	1,912.49	.....	1,912.49
Holders	.....	.....	.....
Furnaces, Boilers, Accessories	R 6.48	.....	R 6.48
Steam Engines	.....	.....	.....
Gas Engines	.....	.....	.....
Misc. Power Plant Equipt.	357.00	.....	357.00
Benches and Retorts	.....	.....	.....
Water Gas Sets and Accessories	.....	.....	.....
Purification Apparatus	3,223.68	.....	3,223.68
Accessory Equipt. at Works	.....	.....	.....
Trunk Lines and Mains	14,851.81	.....	14,851.81
Gas Services	19,096.71	.....	19,096.71
Gas Meters	25,598.54	.....	25,598.54
Gas Meter Installation	982.14	.....	982.14
Municipal Street Ltg. Fixtures	.....	.....	.....
Gas Engines and Appliances	.....	.....	.....
Gas Tools and Implements	646.68	15.00	631.68
Gas Laboratory Equip.	29.05	.....	29.05
Other Tangible Gas Capital	.....	.....	.....
Engineering and Superintendence	.....	.....	.....
Law Expenditures—Construction	.....	.....	.....
Injuries during Construction	.....	.....	.....
Taxes during Construction	.....	.....	.....
Interest during Construction	.....	.....	.....
Misc. Construction Expenditures	.....	.....	.....
Total (Exclusive of overhead)	$73,951.47	$8,582.87	$65,368.60
Overhead			6,508.14
Total (Inclusive of overhead)			$71,876.74

(Here follow Defendants' Exhibits Nos. 36, 37, 38, 39, 40, 43, marked side folio pages 1414, 1415, 1416 and 1417, 1418, 1419, 1420, 1421, 1422, 1423)

R—Red.

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NET ADDITIONS TO FIXED CAP

	1911	1912	1913	1914	1915	
Water Rights	$ 750.00R					
Organisation						
General Structures			$ 20,097.35	$ 17,801.46	$ 458.78	$
General Equipment	882.77	$ 1,648.38	3,090.92	6,876.29	801.72	
Works & Stat. Struct.	47,724.38	494.94	31,907.04	49,516.90	15,074.11	
Holders						
Pur. Boilers & Acc.	269.35	2,064.72	5,705.81	4,423.48	242.04	
Gas engines						
Misc.PowerPlant Equip.	3,952.03	1,088.04	313.25		631.00	
Water Gas Sets & Acc.	53.96	2,836.74	916.39	28,358.52	776.14	
Purification Apparatus	19,006.17		51,494.81	397.35		
Acc. Equipt. at works		2,409.59	18,721.25	36.34	563.79	
Trunk lines and mains	45,255.80	19,015.14	47,578.58	44,102.12	47,977.24	1
Gas services	13,750.74	15,710.82	7,735.09	10,113.46	14,368.10	1
Gas meters	14,746.46	11,589.07	15,855.33	10,777.52	13,148.34	1
Gas meter installation	7,500.49	5,120.13	2,620.31	3,846.45	3,821.73	
Gas eng. and appliance	152.94R	315.40	792.25	1,006.02R	158.00	
Gas tools & implements		72.25	388.81	160.69	17.05R	
Gas laboratory equipt.				20.00		
Eng. and superintenden	3,025.00	3,900.00	3,900.00R	7,275.00R	250.00	
Interest during constr.			3,160.50	3,160.50R		
Total (Exclusive of overhead in 1923).	$155,264.21	$86,265.42	$206,477.69	$164,990.06	$98,253.94	$
Overhead						
Total (Inclusive of overhead in 1923).	$155,264.21	$86,265.42	$206,477.69	$164,990.06	$98,253.94	$

R-Red

DEFENDANTS' EXHIBIT NO. 36.

KINGS COUNTY LIGHTING COMPANY

NET ADDITIONS TO FIXED CAPITAL JANUARY 1, 1911 TO MAY 31, 1923 (EXCLUSIVE OF LAND)

	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923 to May 31	Jan. 1, 1911 to May 31, 1923
	$ 750.00R											$ 4,083.02		$ 750.00R 4,083.02
ures			$ 20,097.35	$ 17,801.46	$ 458.78	$ 15.50R	$ 315.73	$ 2,268.58	$ 1,149.21	$ 519.98	$ 61.13	106.24		42,756.96
nt	882.77	$ 1,648.38	3,090.92	6,876.29	801.72	435.09	7,099.16	6,128.29	10,162.89	9,285.33	12,066.78	9,230.78	$ 1,308.02 R	66,389.32
Struct.	47,724.38	494.94	31,907.04	49,816.90	15,074.11	553.49	951.22	43,437.96	3,197.48	18,800.96	3,451.49	272,102.18	1,918.49	469,124.61
						20.10			49.60	1,542.17	522.43	10,887.03		13,011.33
Acc.	269.35	2,064.72	5,705.81	4,423.48	242.04	1,243.27	2,733.39	2,625.15	57,548.80	14,643.24	6,112.55	228,361.14	6.48R	325,966.48
								13.86		35.65		128,539.29		128,586.80
& Equip.	3,952.03	1,088.04	313.25		631.00		675.00			1,071.00	41.40	281,649.94	357.00	289,798.66
& Acc.	53.96	2,836.74	916.39	28,358.52	776.14	1,689.77	8,495.84	1,337.35R	423.93	29,480.75	5,586.70	128,239.09		206,490.48
paratus	19,006.17		51,494.81	397.35						6,155.99	427.60	12,306.53	3,223.68	93,012.13
works		2,409.59	18,721.25	36.34	563.79	858.34	3,029.90	16,781.49	32,122.70	24,012.89	108.41R	88,727.96		187,155.84
mains	45,255.80	19,015.14	47,678.58	44,102.12	47,977.24	15,641.31	2,155.81	4,261.28	13,060.57	25,859.93	80,649.53	83,578.01	14,851.81	413,946.63
	13,750.74	15,710.82	7,735.09	10,113.44	14,568.10	22,927.80	11,657.39	11,799.65	49,060.23	80,370.28	102,940.53	82,611.51	19,096.71	382,112.41
	14,746.46	11,589.07	15,855.33	10,777.52	13,148.34	19,869.94	22,405.46	11,626.67	28,513.60	21,951.94	53,189.27	11,370.53	25,598.54	260,632.47
allation	7,500.49	5,120.13	2,620.31	3,846.45	3,821.73	7,036.99	6,485.78	4,008.29	8,178.98	8,258.66	30,528.71		882.14	88,356.66
pliance	152.94R	315.60	792.25	1,006.02R	158.00	777.90	2,198.15R							1,312.34R
plements		72.25	388.81	160.69	17.05R		259.99	183.69		409.64	706.89	1,811.50	631.68	4,587.89
equipt.				20.00		5.88	421.47		160.14	871.84	1,987.17	1,577.30	29.05	4,872.85
ditenden	3,025.00	3,900.00	3,900.00R	7,275.00R	250.00									4,000.00R
f constr.			3,160.50	3,160.50R										a
ative of														
ead in	$155,264.21	$66,265.42	$206,477.69	$164,990.06	$98,253.94	$71,034.48	$64,465.69	$101,759.26	$203,602.93	$183,047.25	$266,132.54	$1,345,170.79	$ 65,368.60	$2,993,852.86
).													6,508.14	6,508.14
ative of														
ead in	$155,264.21	$66,265.42	$206,477.69	$164,990.06	$98,253.94	$71,034.48	$64,465.69	$101,759.26	$203,602.93	$183,047.25	$266,132.54	$1,345,170.79	$ 71,876.74	$3,000,361.00
).														

DEFENDANTS' EXHIBIT NO. 37.

KINGS COUNTY LIGHTING COMPANY

REPAIRS FROM JUNE 1, 1923 TO MARCH 31, 1924

	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	TOTAL
PRODUCTION											
Works & Station Structures	$ 851.51	$ 889.18	$ 6,088.22	$ 3,974.89	$ 1,817.62	$ 722.33	$ 734.52	$ 676.42	$ 756.23	$ 1,980.18	$ 18,810.60
Furnaces, boilers & accessories	900.46	734.34	647.46	908.85	1,498.76	1,181.24	1,149.13	989.92	1,319.22	1,163.54	10,492.92
Steam engines	244.08	170.88	24.96	44.13	104.93	156.97	84.91	37.37	82.28	124.52	1,075.08
Gas engines	3.66	.79	-	-	-	-	-	-	4.02	-	8.47
Misc. pow. plant equipment	824.88	630.86	948.04	685.39	691.53	726.05	585.14	1,477.88	844.66	595.66	8,008.09
Water gas sets and accessories	970.86	1,713.52	1,172.54	740.16	2,279.38	782.99	519.18	3,672.61	455.14	1,822.43	14,108.25
Purification apparatus	60.79	1.29	21.39	18.44	49.06	39.01	22.74	188.88	243.88	52.21	697.67
Holders	79.44	-	265.19	319.13	-	5,315.87	49.60	1,045.39	958.88	1,888.80	9,867.30
Misc. equipment	221.62	178.81	308.88	1,547.52	119.15	475.52	1,127.02	109.72	140.08	125.00	4,347.29
Works tools	116.58	119.09	109.26	98.38	105.02	87.34	71.86	40.77	28.23	116.36	887.78
TOTAL PRODUCTION	$4,273.58	$ 4,438.76	$ 8,882.74	$ 8,359.34	$ 6,668.41	$ 9,447.32	$ 4,342.06	$ 8,236.98	$ 4,812.89	$ 6,888.70	$ 65,700.40
DISTRIBUTION											
Mains	$2,288.75	2,404.34	4,993.38	3,187.19	2,192.36	2,632.92	1,445.07	4,587.59	3,021.88	3,026.37	29,779.85
Services	977.64	718.28	574.82	2,178.04	3,011.80	1,656.45	1,439.02	1,774.36	1,312.02	2,366.58	16,006.01
Meters	2,200.27	2,177.64	2,206.56	2,426.19	2,480.21	2,370.25	2,171.48	2,826.71	2,410.26	2,372.57	23,512.14
Tools	348.46	147.38	692.81	209.22	211.82	102.05	41.34	76.03	91.45	220.34	2,140.60
Appliances	5.04	52.04	.44	15.39	46.22	18.56	20.81	.49	21.51	15.93	194.43
Distribution buildings	-	26.87	177.12	-	-	164.65	34.86	495.80	485.40	230.99	1,615.41
TOTAL DISTRIBUTION EXCLUSIVE OF STREET LAMP REPAIRS.	$5,820.16	$5,526.25	$8,645.13	$8,011.03	$7,912.11	$6,944.88	$5,152.60	$9,488.98	$ 7,342.52	$8,232.78	$73,044.44
Street lamp repairs	94.81	132.00	194.80	79.81	38.05	5.64	(R)192.15	188.29	176.88	287.46	962.56
TOTAL DISTRIBUTION INCLUSIVE OF STREET LAMP REPAIRS.	$5,914.97	$5,658.25	$8,839.93	$8,090.84	$7,950.16	$6,950.52	$4,957.45	$9,697.27	$ 7,519.37	$8,520.24	$74,009.00
TOTAL REPAIRS	$10,188.50	$10,091.01	$17,422.67	$16,424.30	$14,618.57	$16,417.84	$ 9,299.51	$17,934.20	$12,331.96	$15,085.94	$139,709.40

* Subject to agreement with General Ledger control.
R-RED.

DEFENDANTS' EXHIBIT NO. 38.

KINGS COUNTY LIGHTING COMPANY

NET CURRENT ASSETS 1923.

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	AVERAGE.
CURRENT ASSETS													
Cash	$201,087.14	$177,082.18	$190,310.85	$201,825.79	$197,548.09	$257,064.84	$148,881.82	$194,289.41	$225,969.30	$225,590.58	$176,177.70	$188,028.91	$195,142.20
Accounts Receivable	286,051.65	289,486.86	286,891.98	291,675.76	308,964.66	308,874.89	303,672.12	289,786.38	290,695.29	316,088.92	328,918.54	334,284.43	303,988.60
Materials & Supplies	198,991.06	199,879.19	202,542.58	213,485.66	212,861.61	208,417.95	217,294.64	234,360.85	244,285.20	244,297.98	231,458.14	221,130.90	219,232.80
Gen'l Storeroom Supp.	8,592.60	9,006.57	9,691.53	10,588.27	11,112.99	12,617.72	12,763.76	13,829.45	14,282.16	14,236.97	14,348.51	14,976.45	12,162.40
Coal Handl'g Surpuses.	1,092.44	1,064.55	1,006.07	810.15	687.96	824.84	279.56	214.71	118.80	(R) 116.76	1,136.14	1,085.76	668.88
Prepaid Insurance	2,545.18	1,682.99	1,260.50	10,876.29	10,389.80	9,376.36	8,386.50	7,106.82	6,071.30	5,100.78	4,129.16	3,158.09	5,857.41
Prepaid Taxes, etc.	3,329.81	2,775.00	3,163.41	2,578.85	15,021.67	2,595.45	2,760.85	4,716.18	5,683.50	4,322.42	14,983.19	4,579.50	5,358.38
Deposits - Public Authorities	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
TOTAL CURRENT ASSETS	$702,699.85	$701,966.34	$695,870.80	$731,835.75	$712,826.84	$799,671.96	$715,059.23	$745,970.80	$788,905.86	$809,519.69	$772,120.20	$788,062.84	$743,372.47
CURRENT LIABILITIES													
Accounts payable	$295,606.76	$219,718.24	$224,305.80	$191,999.77	$168,966.05	$214,594.52	$128,270.49	$172,108.41	$221,967.89	$179,384.82	$216,734.80	$495,124.08	$238,258.18
Unclaimed Wages	986.97	986.97	1,017.68	1,017.68	1,017.68	1,023.79	1,023.79	1,023.79	1,027.79	1,031.12	1,031.12	1,031.12	1,017.99
Unlocated debtors and creditors	10,042.19	10,618.13	10,886.69	11,061.11	10,693.89	10,917.29	10,807.29	11,421.66	11,420.98	11,842.06	11,888.82	11,005.73	10,954.24
TOTAL CURRENT LIABILITIES	$306,632.92	$231,321.34	$236,177.97	$204,057.56	$178,077.32	$226,535.60	$139,101.57	$184,553.66	$234,385.61	$191,707.80	$229,054.54	$507,158.93	$249,230.43
NET CURRENT ASSETS	$395,666.93	$470,645.00	$459,692.83	$527,778.19	$534,449.26	$573,136.36	$575,957.66	$561,417.14	$554,519.76	$617,812.89	$543,065.66	$287,903.91	$494,142.04

R-RED

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DEFENDANTS' EXHIBIT NO. 39.

RETURN TO INVESTORS IN PUBLIC UTILITY SECURITIES
(ADVERTISEMENTS BY FINANCIAL HOUSES IN COMMERCIAL AND FINANCIAL CHRONICLE)

BONDS

COMPANY	STATE	DESCRIPTION OF SECURITY	MATURITY	AMOUNT OFFERED	RATE OF INTEREST (%)	PRICE AT WHICH OFFERED	YIELD (%)	ADVERTISEMENT APPEARS IN ISSUE OF		OFFERED BY
								DATE	PAGE	
Illinois Power & Light Corp.	Ill.	1st & Ref. Mtge Gold Bonds Series A	4/1/53	30,000,000	6	98½	6.10	4/7/23	XXXV	1-2-3-4-5-6-7
Public Service Elec. Power Co.	N. J.	1st Mtge Sink. F. Gold Bonds	4/1/48	14,000,000	6	97½	6.20	6/16/23	XXXIX	8-9
Houston Lighting & Power Co.(a)	Texas	1st Lien & Ref. Mtge Gold Bonds Series A	5/1/53	2,000,000	5	89½	5.75	4/21/23	XXIV	4
Brooklyn Union Gas Co.	N. Y.	Gen'l & Ref. Mtge Gold Bonds Series A	4/1/63	1,000,000	6	98½	6.10	4/21/23	XXIX	10
Los Angeles Sub. Gas Corp.	Calif.	1st Lien Coll. Tr. Sink. F. Gold Bonds	3/1/38	4,000,000	7	100	7.00	4/21/23	XXX	6-11-12
Portland Ry. Light & Power Co.	Oregon	1st Lien & Ref. Mtge Gold Bonds Series B	5/1/47	2,000,000	6	94½	6.45	4/28/23	XXXII	4-13
Middle West Power Co.	Ill.	1st Mtge Gold Bonds Series A	5/1/43	3,850,000	6½	97½	6.75	4/28/23	XXVIII	4-15
County Gas Co.)	Texas	(1st Mtge Gold Bonds	10/1/41	600,000	6	96	6.37)	5/5/23	XXXII	16-17
Dallas Gas Co.)		(1st Mtge Gold Bonds	10/1/41	1,800,000	6	97½	6.22)			
Ill. Power & Light Corp.	Ill.	Sinking Fund Debenture Gold Bonds	4/1/53	10,000,000	7	100	7.00	5/5/23	XXXIII	1-2-3-4-7-10-12
Counties Gas & Elc. Co. (Phila)	Pa.	1st & Ref. Mtge Gold Bonds	5/1/53	6,600,000	6	98	6.15	5/5/23	XXXII	8
Arkansas Central Power Co.	Ark.	1st Lien & Ref. Mtge Gold Bonds	4/1/48	2,800,000	6	94½	6.45	5/5/23	XXXIII	8-9-18
Washington Gas Light Co.	D. C.	10 yr. Mtge Gold Bonds Series A	4/1/33	4,000,000	6	100	6.00	5/12/23	XXVII	3-13
Potomac El. Lt. & Power Co.	D. C.	Gen'l & Ref. Mtge Gold Bonds Ser. B	4/1/53	4,000,000	6	101½	5.88	5/19/23	XXV	3-13
Jersey Central Pow. & Lt. Corp.	N. J.	1st Lien Sink. F. Gold Bonds Ser. A	5/1/48	3,500,000	6½	97	6.75	5/26/23	XXVII	15-21
Kansas Gas & Electric Co.	Kan.	1st Mtge Sink. Fund Gold Bonds	3/1/52	3,500,000	6	98½	6.35	5/26/23	XXVIII	22
Metropolitan Power Co.	Pa.	1st Mtge Gold Bonds Series A	6/1/53	3,250,000	6	94	6.50	6/2/23	XXIV	23-24-25-26
Potomac Edison Company	Md.	1st Mtge Gold Bonds Series A	5/1/48	3,900,000	6½	97	6.75	6/2/23	XXV	4-7-12-27-28
Dubuque Electric Company	Iowa	1st Mtge Gold Bonds	4/1/42	3,000,000	6	98½	6.15	6/9/23	XXVIII	26-29
Western States Gas & Elec. Co.	Calif.	1st & United Mtge Gold Bonds Ser. A	3/1/47	2,000,000	6	96	6.30	6/9/23	XXXI	2-30
Northern N. Y. Utilities Inc.	N. Y.	1st Lien & Ref. Bonds Series C	5/1/43	2,212,000	6	99	6.10	6/16/23	XXVI	7-33
Illinois Bell Telephone Co.	Ill.	1st & Ref. Mtge Gold Bonds Series A	6/1/56	30,000,000	5	95½	5.30	6/16/23	XXIX	3-13-34-35-36-37-38-39-40
Virginia-Western Power Co.	Va.	1st Mtge Sink. F. Gold Bonds Series A	7/1/57	3,500,000	6	98	6.16	7/14/23	XXVII	23-26-61-62
Penn-Ohio Edison Co.	Pa.-Ohio	3½ Year Secured Gold Notes	1/1/27	3,250,000	6½	98	7.15	7/21/23	XXVI	8-63
North American Edison Co.(b)	Wis-Ohio-Mo.	Secured Sink. F. Gold Notes Series B	9/1/48	8,000,000	6½	98½	6.63	8/18/23	XXIII	22
Southern Arizona Power Co.	Ariz.	1st & Ref. Mtge Gold Bonds	2/1/38	675,000	8½	95½	7.00	9/1/23	XIX	64
Indiana El. Corp.	Ind.	1st Mtge Gold Bonds Series B	6/1/53	2,700,000	6½	99	6.57	9/1/23	XXI	1-15-17-18-65
Staten Island Edison Corp.	N. Y.	Ref. & Improvement Mtge Gold Bonds	7/1/68	3,807,000	6½	99	6.58	9/1/23	XXII	1-5-66-67
Ohio River Edison Co.	Ohio-Pa.	1st Mtge Sinking Fund Gold Bonds	7/1/48	7,000,000	6	95	6.40	9/15/23	XXIV	9-63
Pacific Gas & Elec. Co.	Calif.	1st & Ref. Mtge Gold Bonds	12/1/52	10,000,000	5½	98½	5.80	9/22/23	XXXII	2-7-15
Ohio Power Co.	Ohio	1st & Ref. Mtge Gold Bonds Series G	9/1/53	6,000,000	6	99	6.07	9/22/23	XXXIII	22-40
Kansas Electric Power Co.	Kan.	1st Mtge Gold Bonds	6/1/43	1,000,000	6	94	6.55	9/29/23	XXIV	9-14
Pub. Ser. Company of Colorado	Colo.	1st Mtge & Ref. Gold Bonds Series A	9/1/53	5,000,000	6	98	6.55	10/6/23	XXVII	8-15
Queens Borough Gas & Elec. Co.	N. Y.	Ref. Mtge Gold Bonds	9/1/53	2,000,000	6	99½	6.00	10/6/23	XXVII	9-14
Kentucky Utilities Co.	Ky.Va.	1st Mtge Lien Gold Bonds Series D	9/1/48	2,855,000	6½	96½	6.63	10/13/23	XXI	4
Penn. Power & Lt. Co. (c)	Pa.	1st & Ref. Mtge Bonds Series G	9/1/53	4,000,000	6	99	6.07	10/13/23	XXV	3-4-39-69

(a) Under supervision of Electric Bond & Share Co.
(b) Controls Cleveland Elec., Union Elec. & P. of St. Louis, Milwaukee El. Ry. & Lt., Wis. El. Power, Wis. Gas & Elec., Wis. Traction, Lt., Heat and Power.
(c) All these subscribed before public offering.

RETURN TO INVESTORS IN PUBLIC UTILITY SECURITIES
(ADVERTISED BY FINANCIAL HOUSES IN COMMERCIAL AND FINANCIAL CHRONICLE)

COMPANY	STATE	DESCRIPTION OF SECURITY	MATURITY	AMOUNT OFFERED	RATE OF INTEREST (o/o)	PRICE AT WHICH OFFERED	YIELD (o/o)	ADVERTISEMENT APPEARS IN ISSUE OF DATE	PAGE	OFFERED BY
American Public Service Co.	Okla. Tex.	First Lien Gold Bonds	12/1/42	$2,500,000.00	6 1/2	96 8/10 and int.	6.80	10/20/23	XXIII	4 - 15
Philadelphia El. Co.	Penna.	First Lien & Refundg. Mtg. Gold Bonds	11/1/53	10,000,000.00	5 1/2	98 1/2 and int.	5.60	10/27/23	XXVIII	8 - 49 - 3
Southern Calif. Edison Co.	Calif.	Refunding Mtg. Gold Bonds	10/1/45	11,500,000.00	6	98 1/2 and int.	6.12	10/27/23	XXVII	3 - 7 - 42
Public Service Co. of Colo.	Colo.	Gold Debentures(10 yr.Sec.S.F.)	10/1/33	2,250,000.00	7	98 1/4 and int.	7.25	10/27/23	XXIV	15 - 52
Houston Ltg. & Power Co.	Tex.	First Lien & Ref. Mtg. Gold Bonds Series B.	10/1/53	2,000,000.00	6	98 1/2 and int.	6.10	10/27/23	XXI	4
Portland Ry. Lt. & Power Co.	Ore	First Lien & Ref. Mtg. Gold Bonds Series B.	5/1/47	2,000,000.00	6	92 1/2 and int.	6.62 1/2	10/27/23	XX	13 - 4
Amer. Tel. & Tel. Co.	All states	Twenty year S. F. 5 1/2 o/o Debenture Gold Bonds	11/1/43	100,000,000.00	5 1/2	98 1/2 and int.	5.62 1/2	11/10/23	XXVII	34 - 35 - 36
Ills. Power & Light Co.	Ills. Ia. Kans.	First & Refunding Mtg. Gold Bonds Ser. A.	4/1/53	5,000,000.00	6	98 1/2 and int.	6.10	11/10/23	XXV	7 - 3 - 1
Tenn. El. Power Co.	Tenn.	Ten year 6 1/2 o/o Debenture Bonds	10/1/33	1,000,000.00	6 1/2	96 and int.	7.05	11/10/23	XXIV	13 - 9
Penn. Water & Power Co.	Penna.	First Ref. Mtg. Gold Bonds Series A.	10/1/53	2,000,000.00	5 1/2	95 3/4 and int.	5.80	11/17/23	XXVII	53 - 54
Miss. Power & Light Co.	Miss.	First & Ref. Mtg. S. F. Gold Bonds Series A.	6/1/43	1,200,000.00	6 1/2	94 1/2 and int.	7.00	11/17/23	XXVI	14 - 55
Nev.-Calif. Elec. Corp.	Nev. Calif.	First Lien Gold Bonds Series B.	10/1/50	1,000,000.00	6	94 and int.	6.45	11/17/23	XXV	1 - 2
Minn. Power & Light Co.	Minn. Wis.	First and Refundg. Mtg. Gold Bonds	11/1/50	8,300,000.00	6	97 3/4 and int.	6.15	11/24/23	XXIX	3 - 9 - 18 - 42
Penn. Central Light and Power Company	Penn.	First and Refunding Mtg. Gold Bonds	12/1/53	10,300,000.00	6	98 and int.	6.15	11/24/23	XXVIII	8 - 49
Northern States Power Co.	Minn. Wis. Ills.	Convertible Gold Notes	11/1/33	10,000,000.00	6 1/2	98 1/2 and int.	6.70	11/24/23	XXVII	39 - 1 - 30
Northern States Power Co.	Minn. Ills. Wis.	First Lien and Gen. Mtg. Gold Bonds Series A.	11/1/48	8,500,000.00	6	97 1/2 and int.	6.20	12/8/23	XXX	3 - 39 - 30
Southern Pub. Utilities Co.	No. Car. So. Car	First and Refg. Mtg. Gold Bonds	7/1/43	4,000,000.00	5	91 1/4 and int.	5.75	12/8/23	XXIX	8 - 24 - 45 - 46
Phila. Suburban Gas. & El. Co.	Pa.	First and Consolidated Mtg. Gold Bonds 6 o/o series	12/1/43	5,650,000.00	6	96 1/2 and int.	6.30	12/8/23	XXVIII	54-8-31

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RETURN TO INVESTORS IN PUBLIC UTILITY SECURITIES
(ADVERTISED BY FINANCIAL HOUSES IN COMMERCIAL AND FINANCIAL CHRONICLE)

COMPANY	STATE	DESCRIPTION OF SECURITY	MATURITY	AMOUNT OFFERED	RATE OF INTEREST (%/%)	PRICE AT WHICH OFFERED	YIELD (%/%)	ADVERTISEMENT APPEARS IN ISSUE OF DATE	PAGE	OFFERED BY
Community Power & Light Company	Texas, Kans. Ark.	First Mtg. Coll. S. F. Gold Bonds Ser. C.	10/1/53	1,710,000	6 1/2	98 & int.	6.80	12/8/23	XXIV	57-88-89
Roch. Gas. & El. Co.	New York	Genl. Mtg. 25 yr. Gold Bonds Series C.	9/1/48	4,000,000	5 1/2	95 1/2 " "	5.85	12/15/23	XXVII	34-3-13-37-39-38
United Light & Rys. Co.	Mid. West	First Lien and Con. Mtg. Gold Bonds Ser. A.	4/1/52	1,000,000	6	96 " "	6.37 1/2	12/15/23	XXIV	9
West Penn. Power Co.	Pa.	First Mtg. Gold Bonds Ser. F.	10/1/53	7,500,000	5 1/2	95 1/8 " "	5.85	12/22/23	XXVI	4-60-27
Phila. Rapid Transit Co.	Pa.	Two yr. Gold Notes	12/1/25	3,500,000	6	99 1/4 " "	6.40	12/22/23	XXIV	22
Ohio Power Company	Ohio	First & Refg. Mtg. Gold Bonds	9/1/53	2,000,000	6	98 1/2 " "	6.11	12/22/23	XXV	22-40-48
American Gas. & El. Co.	East and Mid. West	Gold Debenture Bonds	5/1/2014	5,500,000	6	95 " "	6.30	12/22/23	XXII	9
No. N. Y. Utilities Co.	New York	First Lien and Ref'g Bonds Series C	5/1/43	1,185,000	6	99 " "	6.10	12/22/23	XXI	7-33
Commonwealth Edison Co. Chicago	Ills.	Gold Bonds Series A (First Mtg. Coll.)	7/1/53	15,000,000	5	92 1/2 " "	5.50	12/22/23	XXVIII	4
Public Service Company of No. Ills.	Ills.	Gold Bonds Series A (First Lien & Ref. Mtg.)	6/1/52	10,000,000	5 1/2	92 " "	6.05	12/29/23	XXV	4
Phila. Rapid Transit Co.	Pa.	Mtg. Gold Bonds (Real Estate First)	1/1/44	2,500,000	6	100 " "	6.00	1/12/24	XXXII	22
Market Street Ry. Co.	Calif	First Mtg. S. F. Gold Bonds	4/1/40	15,000,000	7	100 " "	7.00	1/12/24	XXXI	23-40-51
Kentucky Utilities Company	Ky. Va.	First Mtg. Lien Gold Bonds Ser. D.	9/1/55	2,000,000	6 1/2	98 1/2 " "	6.62 1/2	1/12/24	XXIX	4

RETURN TO INVESTORS IN PUBLIC UTILITY SECURITIES
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COMPANY	STATE	DESCRIPTION OF SECURITY	MATURITY	AMOUNT OFFERED	RATE OF INTEREST (a/a)	PRICE AT WHICH OFFERED	YIELD (a/a)	ADVERTISEMENT APPEARS IN ISSUE OF DATE	PAGE	OFFERED BY
Los Angeles Gas & El. Co.	Calif.	Genl. & Refg. Mtg. Gold Bonds Series H	3/1/42	8,000,000	6	99 & int.	6.08	1/19/24	XXI	61-7-3-2-62
N. Y. State Gas & El. Co.	N. Y.	First Mtg. Gold Bonds	10/1/62	2,350,000	6½	92 1/2 & int.	6	1/19/24	XXIV	5 -63
Southern Calif. Gas Co.	Calif.	First & Refg. Mtg. Gold Bonds Ser. C	6/1/58	1,500,000	6	98 & int.	6 1/8	1/19/24	XXIII	64-2-65
San Antonio Pub. Service	Texas	First Mtg. & Ref. Gold Bonds Ser. A	1/1/52	1,750,000	6	95 & int.	6 3/8	1/19/24	XXII	4-66-67
Union El. Light & Power Co.	Mo.	First Mtg. Gold Bonds Series A	1/1/54	10,000,000	5½	95 3/4 & int.	5.80	1/26/24	XVI	22-3-1
Potomac Edison Company	Md. Va. W.Va.Pa.	First Mtg. and Ref. Gold Bonds	5/1/48	2,000,000	6½	97 & int.	6.75	1/26/24	XXVIII	7-4-27-28
Interstate Pub. Service Co.	Ind. Ky	First Mtg. & Ref. Gold Bonds Ser. B	1/1/54	2,750,000	6½	98 & int.	6.65	1/26/24	XXIII	7-4-27-28
San Joaquin Lt. & Pow. Co.	Calif.	Unifying & Ref. Mtg. Gold Bonds Ser.B.	3/1/52	2,500,000	6	99 & int.	6.06	1/26/24	XXII	64-2-65
Maryland El. Rys. Co.	Md.	First & Ref. Mtg. Gold Bonds Ser. A.	1/1/57	4,000,000	6½	100 & int.	6.50	2/2/24	XXVII	66-7
Southwestern Bell Tel. Co.	Mo.Kans. Ark.Ok.	First and Ref. Gold Bonds Series A	2/1/54	50,000,000	5	93 1/2 & int.	5.45	2/2/24	XXI	35-36-34
Syracuse Lighting Company	New York	First & Ref. Mtg. Gold Bonds	2/1/54	7,000,000	5½	97 & int.	5.70	2/9/24	XXVIII	8
Con. Gas & El. Co.	Mo.	Coll. Trust Gold Bonds Series A	2/1/54	5,700,000	7	100 & int.	7.00	2/9/24	XXV	69-64-70-71-72
Washington Water Power Co.	Washing.	Coupon Notes	2/2/26	1,000,000	6	100 3/4 & int.	5.60	2/9/24	XVII	76
American Gas Company	Eastern & Mid West	Ten yr. S. F. Secured Gold Bonds	1/1/34	2,500,000	7	99 & int.	7.10	2/9/24	XXII	56-31
Ohio Power Company	Ohio	First & Ref. Gold Bonds Series C.	9/1/53	2,000,000	6	99 & int.	6	2/9/24	XX	22-40-48
Central Ills. Pub.Ser.Co.	Ills.	First Mtg. & Refg. Gold Bonds Ser. C.	1/1/44	2,000,000	6	94 & int.	6.55	2/9/24	XIX	4
Peoples Gas Light & Coke Co.	Ills.	Secured Gold Notes	3/1/27	5,750,000	6	100 & int.	6.00	2/23/24	XIX	4-77
Eastern N. J. Power Co.	N. J.	First Mtg. Gold Bonds	1/1/49	3,250,000	6	95 & int.	6.40	3/1/24	XXXIV	9-14-73
Sioux City Gas & El. Co.	Iowa	First Mtg. 25 yr. Gold Bonds Ser. B	2/1/49	2,550,000	6	98 & int.	6.15	3/1/24	XXIV	4
Tenn. El. Power Co.	Tenn.	First & Ref. Mtg. Gold Bonds Ser. A.	6/1/47	3,000,000	6	96 & int.	6.30	3/1/24	XXIVII	13-9-74-4-5
Central Ind. Power Co.	Ind.	Three yr. Coll. Gold notes	3/1/27	6,500,000	7	100 & int.	7.00	3/8/24	XXVII	4
Southern Calif. Edison Co.	Calif.	Ref. Mtg. Gold Bonds	10/1/43	14,000,000	6	99 & int.	6.08	3/22/24	XXI	3-7-42
Houston Lighting & Pow. Co.	Texas	First Lien & Ref. Mtg. Gold Bonds Ser.C	5/1/54	2,000,000	6½	96 1/2 & int.	6.75	3/29/24	XIV	4
Allentown-Bethlehem Gas Co.	Penna.	First Mtg. Gold Bonds	4/1/54	2,500,000	6½	97 & int.	6.70	3/29/24	XXIV	8
Duquesne Light Co.(Pittsbur)	Penna.	First Mtg. & Coll. Trust Gold Bonds Se.B	7/1/49	10,000,000	6½	99 & int.	6.57	3/29/24	XXIV	3-37-40-50-51
Columbia Gas & El. Co.	Ohio	One yr. Notes	3/1/25	11,500,000	5	100 & int.	5.00	3/29/24	XXIX	43-39

OFFERED BY

1. Spencer, Trask & Co.
2. Blyth, Witter & Co.
3. Harris, Forbes & Co.
4. Halsey, Stuart & Co. Inc.
5. Marshall, Field Glore Ward
6. Central Trust Co. of Ill. Chic.
7. E. H. Rollins & Sons
8. Drexel & Co.
9. Bonbright & Co.
10. Bodell & Co.
11. H. T. Holtz & Co. Chicago
12. Hambleton & Co.
13. National City Co.
14. W. C. Langley & Co.
15. A. B. Leach & Co.
16. Arthur Perry & Co.
17. Paine Webber & Co.
18. Tucker Anthony & Co.
19. Putnam & Co. Hartford
20. Chas. W. Scranton & Co.
21. A. C. Allyn & Co.
22. Dillon Read & Co.
23. West & Company
24. Blodgett & Co.
25. Parsly Bros. & Co.
26. Edw. B. Smith & Co.
27. W. A. Harriman & Co.
28. Dominick & Dominick
29. Arthur Perry & Co.
30. M. M. Dyllesby & Co. Inc.
31. Stroud & Co.
32. A. E. Fitzin & Co.
33. F. L. Carlisle & Co. Inc.
34. J. P. Morgan & Co.
35. Kuhn Loeb & Co.
36. Kidder, Peabody & Co.
37. First Natl. Bank of N. Y.
38. Bankers' Trust Co. of N.Y.
39. Guaranty Co. of N. Y.
40. Lee, Higginson & Co.
41. W. H. Newbold's Sons & Co.
42. Coffin & Burr, Inc.
43. Eastman, Dillon & Co.
44. T. B. Crews Jr. & Co.
45. Stone & Webster Inc.
46. Estabrook & Co.
47. Raymond H. Smith & Co.
48. Continental & Comm. Trust & Sav. Bank Chic.
49. Brown Bros. & Co.
50. Hayden Stone & Co.
51. Ladenburg, Thalman & Co.
52. Federal Securities Corp.
53. Aldred & Co.
54. Chase & Co.
55. John Nickerson & Co.
56. Bioren & Co.
57. W. L. Ross & Co. Inc.
58. Whitaker & Co.
59. Liberty Central Trust Co.
60. Union Trust Co. of Pgh.
61. Bond & Godwin & Tucker
62. Mercantile Securities Co.
63. Janney & Co.
64. Pierce Fair & Co.
65. Banks, Huntly & Co.
66. Lehman Bros.
67. Goldman, Sachs & Co.
68. Alex. Brown & Sons.
69. Otis & Co.
70. Howe, Snow & Bartlet
71. Pearsons-Taft & Co.
72. R. E. Wilsey & Co.
73. Meagland, Allun & Co. Inc.
74. Newhill, Noyes & Co.
75. Ernshom & Co.
76. White Weld & Co.
77. Ills. Merchants Trust Co.
78. Old Colony Trust Company

DEFENDANTS' EXHIBIT NO. 40.

RETURN TO INVESTORS IN PUBLIC UTILITY SECURITIES
(ADVERTISEMENTS BY FINANCIAL HOUSES IN COMMERCIAL AND FINANCIAL CHRONICLE)

STOCKS

COMPANY	STATE	DESCRIPTION OF SECURITY	MATURITY	AMOUNT OFFERED	RATE OF INTEREST (%)	PRICE AT WHICH OFFERED	YIELD (%)	ADVERTISEMENT APPEARS IN ISSUE OF DATE	PAGE	OFFERED BY
Public Service Elec. Power Co.	N. J.	Cumulative Preferred Stock	-	$6,000,000	7	98.75	7.10	4/21/25	XXXIV	9
Indiana Power Co.	Ind.	Cumulative Participating Pref.St.	Redeemable quarterly at 115	1,000,000	7	89.00	7.87	4/26/25	XXV	14
Long Island Lighting Company	N. Y.	Cumulative Preferred Stock	Redeemable after three years @ 110	1,000,000	7	100.00	7.00	4/26/25	XXVI	9-14
Eastern Conn. Power Company	Conn.	Cumulative 1st Pref. Stock	Redeemable at option of company at 120	1,500,000	7	100½Div.	7.00	5/26/25	XXVI	
Consolidated Power & Lt. Co.	Kent.	Cumulative Preferred Stock		1,500,000	7	98¼Div.	7.50	6/16/25	XXIV	1-18-31
Jersey Central Power & Lt. Corp.	N. J.	Cumulative Participat.Pref. St.	Participates up to $5 per share addn'l	1,250,000	7	98¼Div.	7.87	6/16/25	XXV	32
Penn. Elec. Power Co.	Penn.	Cumulative 1st Pref. Stock		1,500,000	7	91	7.70	10/15/25	XXIV	9
Ohio River Edison Company	Ohio	Cum. Guaranteed Pref. Stock		3,000,000	7	93¼Div.	7.50	11/10/25	XXII	9-43
Indiana Power Co.	Ind.	Cum. Par. Pref. Stock		500,000	7	90 &Div.	7.78	12/1/25	XXIII	14
Southwestern Pow. & Light Co.	Tex.	Cum. Pref. Stock		1,400,000	7	96¼Div.	7.25	1/19/26	XXVII	9
Com. Gas & Elec. Co.	Mo. Ks Ia. Neb.	Prior Pref. Stock		5,000,000	7	92¼Div.	7.57	2/2/26	XXVI	70-69-71-66
Gen'l Gas & El.	N. E. States Pa. & N. Y.	Cum. Pref. Stock Class A		400,000	8	101½Div.	7.88	2/9/26	XXIV	23-75
N. Car. Pub. Ser. Co.	N. C.	Cum. Pref. Stock		1,500,000	7	91 &Div.	7.70	3/8/26	XXV	75
Nebraska Power Company	Neb.Ia.	Cum. Pref. Stock		1,000,000	7	98 &Div.	7.14	3/8/26	XXIV	14-78

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DEFENDANTS' EXHIBIT NO. 43.

KINGS COUNTY LIGHTING COMPANY

VALUE OF PROPERTY FOR PURPOSES OF TAXATION 1906-1916 AS REPORTED BY THE COMPANY TO THE STATE TAX DEPARTMENT COMMISSION

	June 30, 1905	Dec. 31, 1906	Dec. 31, 1907	Dec. 31, 1908	Dec. 31, 1909	Dec. 31, 1910	June 30, 1911	June 30, 1912	June 30, 1914	June 30, 1916
Tangible Real Property In Streets, Highways & Public Places.										
1. Cost to reproduce new	$424,586.01	$444,833.76	$488,184.77	$525,821.98	$832,180.85	$794,395.27	$820,826.99	$1,138,853.71	$861,611.00	$947,444.00
2. Present value (less dep)(c)	301,879.00	316,711.10	336,228.15	428,048.14	478,938.76	(a)794,395.27	(a)820,826.99	(a)1,138,853.71	(a)861,611.00	(a)947,444.00
Tangible Property Outside Of Streets, Highways and Public Places.										
3. Cost to reproduce new	546,207.59	600,934.39	641,572.68	700,000.00	800,000.00	1,200,000.00	1,569,071.00	1,639,406.00	2,188,746.00	2,283,049.00
4. Present value (less dep)(c)	531,111.62	569,282.84	609,921.13	650,000.00	700,000.00	(a)1,200,000.00	(a)1,569,071.00	(a)1,639,406.00	(a)2,188,746.00	(a)2,283,049.00
Tangible Personal Property										
5. Cost to reproduce new	-	-	(b)37,525.61	(b)36,078.54	(b)37,244.88	(b)82,519.76	(b)416,338.00	(b)448,522.00	(b)378,865.00	466,845.00
6. Present value	-	-	37,525.61	36,078.54	37,244.88	82,519.76	(c)416,338.00	448,522.00	378,865.00	466,845.00
* TOTAL TANGIBLE PROPERTY										
7. Cost to reproduce new	$ 970,793.60	$ 1,045,768.15	$ 1,167,283.06	$ 1,261,900.49	$ 1,669,425.73	$ 2,046,915.03	$2,806,236.99	$3,226,781.71	$ 3,429,242.00	$ 3,697,038.00
8. Present value	$ 832,990.62	$ 886,993.94	$ 783,674.89	$ 1,064,126.68	$ 1,216,180.04	$ 2,046,915.03	$2,806,236.99	$3,223,781.71	$ 3,429,242.00	$ 3,697,038.00
9. Present value of all intangible property (d)	-	-	-	-	-	-	-	-	(d) -	(d) -
* GRAND TOTAL - PROPERTY										
10. Cost to reproduce new	$970,793.60	$1,045,768.15	$1,167,283.06	$1,261,900.49	$1,669,425.73	$2,046,915.03	$2,806,236.99	$3,226,781.71	$3,429,242.00	$3,697,038.00
11. Present value	$832,990.62	$886,993.94	$783,674.89	$1,064,126.68	$1,216,180.04	$2,046,915.03	$2,806,236.99	$3,223,781.71	$3,429,242.00	$3,697,038.00

* TOTALS NOT GIVEN IN REPORTS

(a) No depreciation computed.
(b) Cost to "Reproduce new" not called for by Report Form until that of June 30, 1916. "Present value" on exhibit for earlier years used for "Cost to Reproduce new".
(c) "This item includes Meters and Services".
(d) Printed form for Reports beginning with June 30, 1914 reads "Present value of all intangible property including franchises". In Reports of 1914 and 1916 company stated "Not carried separately on the books and impossible to make estimate at this time".
(e) Report forms to June 30, 1916 provide for distinction between "Cost of reproduction, new allowing for depreciation". Commencing with June 30, 1916 Report form was changed to reference being made to depreciation.

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[fol. 1424] DEFENDANTS' EXHIBIT No. 44A

AT A STATED MEETING OF THE PUBLIC SERVICE COMMISSION FOR THE FIRST DISTRICT DULY HELD AT ITS OFFICE, No. 154 NASSAU STREET, IN THE BOROUGH OF MANHATTAN, CITY OF NEW YORK, ON THE 20TH DAY OF OCTOBER, 1911

Present: William R. Willcox, Chairman; William McCarroll, Milo R. Maltbie, John E. Eustis, J. Sergeant Cram, Commissioners.

Case No. 1273

JOHN G. MAYHEW and Others

against

KINGS COUNTY LIGHTING COMPANY

Rate for Gas in Thirtieth Ward, Brooklyn

Order Fixing Maximum Price of Gas

A complaint in writing by John G. Mayhew and Others, being more than one hundred customers or purchasers of gas in the Thirtieth Ward of the Borough of Brooklyn, in the City of New York, as to the price of gas for light, heat or power, in said Ward of said City, sold and delivered, having been presented to the Commission, and the Commission, before proceeding under said complaint so presented, having caused to be served upon the Kings County Lighting Company, the corporation affected by said complainant, notice of such complaint and the purpose thereof and notice that a hearing thereon would be had before the Commission on the 17th day of October, 1910, at 2:30 o'clock in the afternoon, or at any time or times to which the same might be adjourned, at the Hearing Room of the Commission, No. 154 Nassau Street, Borough of Manhattan, City of New York, and at said time and place and at other times to which the said hearing was duly adjourned, the said complainants and the said Kings County Lighting Company having appeared and having had an opportunity to be heard in respect to the matters complained of in said complaint, and the Commission having

instituted an investigation as to the matters so complained of,

[fol. 1425] Now, upon said complaint and after said hearing and said investigation, it is

Ordered by the Public Service Commission for the first District of the State of New York that the maximum price of gas to be charged by the Kings County Lighting Company for gas in the Thirtieth Ward of Brooklyn, in the City of New York, for the period hereinafter mentioned, be and the same hereby is fixed by said Commission as follows:

From and including November 1, 1911, to and including December 31, 1912, eighty-five cents per thousand cubic feet.

From and including January 1, 1913, to and including December 31, 1913, eighty cents per thousand cubic feet. And it is further

Ordered, that this order take effect immediately, and that the Kings County Lighting Company notify the Public Service Commission for the First District on or before the 31st day of October, 1911, whether the terms of this order are accepted and will be obeyed.

By the Commission.

(Signed) Travis H. Whitney, Secretary.

[fol. 1425½] State of New York, ss:

Public Service Commission

I have compared the preceding copy with the original certified copy of the order of the Commission in the matter of John G. Mayhew and others against the Kings County Lighting Co., Order Fixing Maximum Price for gas. Case No. 1273, dated Oct. 20, 1911 on file in this office, and I do hereby certify the same to be a correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of the Public Service Commission, at the City of New York this thirtieth day of April, one thousand nine hundred and twenty-four.

F. P. Redmond, Asst. Secretary. Seal of Public Service Commission, State of New York.

[fol. 1426] DEFENDANT'S EXHIBIT No. 44B

AT A STATED MEETING OF THE PUBLIC SERVICE COMMISSION FOR THE FIRST DISTRICT DULY HELD AT ITS OFFICE, No. 154 NASSAU STREET, IN THE BOROUGH OF MANHATTAN, CITY AND STATE OF NEW YORK, ON THE 17TH DAY OF NOVEMBER, 1911

Present: William R. Willcox, Chairman; William McCarroll, Milo R. Maltbie, John E. Eustis, J. Sergeant Cram, Commissioners.

Case No. 1273

JOHN G. MAYHEW and Others

against

KINGS COUNTY LIGHTING COMPANY

Rate for Gas in the Thirtieth Ward, Brooklyn

Order on Rehearing

The application of the Kings County Lighting Company herein, dated and verified October 30, 1911, praying a rehearing in the above entitled proceeding as to matters determined in and by the order of the Commission made in this proceeding October 20, 1911, fixing the maximum price of gas in the Thirtieth Ward, Borough of Brooklyn, City of New York, having been granted and such rehearing having been held by the Commission on November 3rd, 1911, and upon such rehearing the said applicants having moved the Commission to abrogate, modify and change the said order and the Commission having fully considered the matter and being of the opinion that said order should in part be changed, it is

Ordered, that the motion of said Kings County Lighting Company that the Commission abrogate, modify or change the said order, made October 20, 1911, herein, be and the same hereby is denied, except that it is

Ordered, that the said order of the Commission herein made and filed October 20, 1911, be and the same hereby is changed so that said order shall read as follows:

[fol. 1427] A complaint in writing by John G. Mayhew and others, being more than one hundred customers or purchasers of gas in the Thirtieth Ward of the Borough of Brooklyn, in the City of New York, as to the price of gas for light, heat or power in said ward of said city sold and delivered, having been presented to the Commission, and the Commission, before proceeding under said complaint so presented, having caused to be served upon the Kings County Lighting Company the corporation affected by said complaint, notice of such complaint and the purpose thereof and notice that a hearing thereon would be had before the Commission on the 17th day of October, 1910, at 2:30 o'clock in the afternoon, or at any time or times to which the same might be adjourned, at the hearing room of the Commission, No. 154 Nassau Street, Borough of Manhattan, City of New York, and at said time and place and at other times at which the said hearing was duly adjourned and the said complainants and the said Kings County Lighting Company having appeared and having had an opportunity to be heard in respect to the matters complained of in said complaint, and the Commission having instituted an investigation as to the matters so complained of,

Now, upon said complaint and after said hearing and said investigation, it is

Ordered, by the Public Service Commission for the First District of the State of New York that the maximum price of gas to be charged by the Kings County Lighting Company for gas in the Thirtieth Ward of the Borough of Brooklyn, in the City of New York, for the period hereinafter mentioned, other than for gas furnished by said Kings County Lighting Company for street lighting under a contract with the Board of Improvement of the Town of New Utrecht, bearing date December 26, 1889 and March 19, 1891, be and the same hereby is fixed by said Commission as follows:

From and including November 1, 1911, to and including December 31, 1912, eighty-five cents per thousand cubic feet;

From and including January 1, 1913, to and including December 31, 1913, eighty cents per thousand cubic feet; and it is further

[fol. 1428] Ordered, that this order take effect immediately and that the Kings County Lighting Company notify the Public Service Commission for the First District on or before the 25th day of November, 1911, whether the terms of this order are accepted and will be obeyed.

By the Commission.

(Signed) Travis H. Whitney, Secretary, (L. S.)

State of New York, ss:

Public Service Commission

I have compared the preceding copy with the original certified copy of the order of the Commission in the matter of John G. Mayhew and others, against the Kings County Lighting Co., dated Nov. 17, 1911, order on rehearing (case No. 1273), on file in this office, and I do hereby certify the same to be a correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of the Public Service Commission, at the City of New York, this thirtieth day of April, one thousand nine hundred and twenty-four.

F. P. Redmond, Asst. Secretary. Seal of Public Service Commission, State of New York.

[fol. 1429] Defendant's Exhibit No. 45

Before Special Master Hon. Almeth W. Hoff

Kings County Lighting Company

Estimate of Reasonable Investment in Gas Property as of June 1, 1923

A. S. B. Little

An attempt is herein made by the Engineer representing the defendant, the Attorney-General, to arrive at the prudent and reasonable investment in the plaintiff's property used and useful in serving the public.

The amount hereinafter set forth is built on a foundation consisting of an appraisal made by the Public Service

Commission of the First District, as of December 31, 1910. (P. S. C. Reports N. Y. Vol. II, December 31, 1911, p. 682.)

This appraisal was passed upon by the Appellate Division (A. D. Reports 156, p. 606) and affirmed as to all costs, but not as to the method of treating "going value," by the New York Court of Appeals. (210 N. Y. pp. 495-6.)

The foundation of my appraisal is the findings of the Commission after eliminating the value found for the land in 1910 and the amount of working capital at that time considered necessary. These items must necessarily be greater in amount at this time, and the extent of the appreciation or increase in amount is shown in the itemized valuation attached hereto.

Upon this foundation I have built up the investment from the books and records of the plaintiff, to arrive at the structural cost and the overhead expense as of June 1, 1923.

To the investment thus arrived at, there has been added an estimate of the Floating Capital that I believe is necessary in order to do the amount of business that the plaintiff may reasonably expect to enjoy during the forthcoming twelve months.

For details of my estimate, see the following sheets:

[fol. 1430] Estimate of Reasonable Investment in Property as of June 1, 1923

Item	Description	Amount	
1.	Appraised value of tangible property, exclusive of land and floating capital, as of December 31, 1910, as per Public Service Commission (ante) inclusive of 15% for "engineering, incidentals, etc." and of 10% for "general contractor's profit":		
	a—General Structures	$818,553	
	b—Furnaces, Boilers and Accessories	19,257	
	c—Water Gas Sets and Accessories	66,116	
	d—Misc. Power Plant Equipment	1,454	
	e—Works and Station Structures	169,521	
	f—Holders	263,590	
	g—Purification Apparatus	22,510	
	h—Accessory Equipment at Works	64,946	
	i—Trunk Lines and Mains	627,312	
	j—Gas Services	80,810	
	k—Gas Meters	100,125	
	l—Gas Meter Installation	19,281	
	m—Municipal Street Lighting Fixtures	7,173	
	n—Gas Engines and Appliances	1,086	
	o—Gas Tools and Implements	143	
	p—Gas Laboratory Equipment	1,236	
	q—General Equipment	9,247	
	r—Development Item, trunk lines and mains	15,219	
	s—Total of above		$1,487,579

2. Preliminary and Development Expenses as per Public Service Commission:		
a—Initial promotion and organization; trial operation of Machinery and adjustment thereof; legal and engineering expense; cost of obtaining franchises and permits. (P. S. C. Reports, ante, pp. 686-7)		140,000
b—Interest and Taxes during construction, as per P. S. C. Reports (ante, p. 687) and as shown in Appellate Division opinion (ante p. 606)		120,000
3. Value of Property on December 31, 1910, exclusive of Land and Floating Capital		$1,747,579
4. Land. Present Assessed Value as per Sheet No. 3 attached hereto		997,000
Carried forward		$2,744,579
[fol. 1431] Brought forward		$2,744,579
5. Additions to Fixed Capital from December 31, 1910, exclusive of Land, which is taken at assessed value in year 1923:		
a—December 31, 1910 to December 31, 1911	$155,264.21	
b— " 1911 " " 1912	66,265.42	
c— " 1912 " " 1913	206,477.69	
d— " 1913 " " 1914	164,990.06	
e— " 1914 " " 1915	98,253.94	
f— " 1915 " " 1916	71,034.48	
g— " 1916 " " 1917	64,465.69	
h— " 1917 " " 1918	101,759.26	
i— " 1918 " " 1919	203,602.93	
j— " 1919 " " 1920	183,047.25	
k— " 1920 " " 1921	268,132.54	
l— " 1921 " " 1922	1,345,170.79	
m— " 1922 " May 31, 1923 with proportion of overhead expenses for year 1923	71,876.74	
Total net additions as above, as per detail schedules prepared by the accountants of defendant Attorney General under my direction	3,900,341.00	
6. Less retirements to Fixed Capital existing prior to December 31, 1908, as per books	37,552.02	
Net additions as above		2362,789
7. Total of above, inclusive of estimated overhead costs in items 1-a to 7, as per Commission's findings, including the Commission's allowance for Preliminary and Development expense, and with actual overhead costs as per books since Jan. 1, 1911		$5,707,368
8. Estimated reasonable amount of Floating Capital as per separate schedule		446,051
9. Estimate of Reasonable Investment in the Property, plus working capital		$6,153,419

[fol. 1432] Details of Land

Assessed Value of Land, Unimproved—1924

Section	Volume	Block	Lot	Amount
17	5	5742	43	$5,500
3	4	819	1	951,500
17	5	5743	1	1,000
17	5	5749	15	11,500
17	5	5749	27	16,000
17	5	5764	9	1,100
17	5	5763	28	7,800
17	5	5750	1	2,600
Total of above				$997,000

[fol. 1433] DEFENDANTS' EXHIBIT No. 46

Before Special Master, Hon. Almeth W. Hoff

Kings County Lighting Company

(A. S. B. Little)

Amended Fixed Capital as of May 31, 1923, based on report to Board of Tax Commissioners as of June 30, 1904, by Kings County Gas and Illuminating Co., plus net additions as per books of Kings County Lighting Company, plus estimate of Floating Capital.

Cost of real estate, improvements, and equipment as reported to Board of Tax Commissioners, N. Y. State, as of June 30, 1904, by Kings Co. Gas and Illuminating Co.	$2,441,997.40

Net additions to Fixed Capital, per plaintiff's books:

	Since 1908	Prior to 1908	Total	
1904	.....	$6,491.80	$6,491.80	
1905	.....	51,233.37	51,233.37	
1906	.....	107,580.83	107,580.83	
1907	.....	79,827.17	79,827.17	
1908	.....	208,520.63	208,520.63	
1909	$117,787.33	(6,399.45)	111,387.88	
1910	84,011.66	(2,974.20)	81,037.46	
1911	158,380.61	(2,927.67)	155,452.97	
1912	66,824.11	(2,630.59)	64,193.52	
1913	206,477.09	(2,920.00)	203,557.09	
1914	166,383.94	(2,629.63)	163,754.31	
1915	107,057.16	(5,123.18)	101,933.98	
1916	71,034.48	(2,417.53)	68,616.95	
1917	64,511.91	(1,662.20)	62,849.65	
1918	101,759.26	(7,240.88)	94,518.38	
1919	203,002.93	(2,682.86)	200,920.07	
1920	183,047.25	(1,467.69)	296,579.56	
1921	268,122.54	(1,442.02)	266,680.52	
1922	1,347,740.37	(3,469.79)	1,344,270.58	
First 5 mos. 1923	71,876.74		71,876.74	
				3,626,323.56
Fixed Capital as of May 31, 1923, without deduction for accrued depreciation.....				$6,068,320.96

Estimate of Floating Capital:

Materials and Supplies, and Cash Working Capital, as per Estimate. See separate sheets for details	446,051.00
Estimated reasonable original cost to plaintiff of physical Property, acquired by it, exclusive of Consolidation Costs, including Net Additions and Working Capital as per Engineer's estimate	$6,514,371.96

NOTE.—Figures in parentheses indicate retirements.

[fol. 1434]

DEFENDANTS' EXHIBIT No. 47

Before Special Master, Hon. Almeth W. Hoff

Kings County Lighting Company

Estimate of Working Capital Required

A. S. B. Little

Item	Description	Amount
1.	Manufacturing Materials:	
1a	Generator Fuel:	

Based upon 1923 use, with allowance to produce extra quantity of gas likely to be made in ensuing twelve months. I have taken into consideration, amongst other things, that during 1923 the amounts used monthly were reported as follows (Coal and Coke):

Month	Pounds of Coke	Pounds of Coal
January	6,852,417	
February	5,792,686	485,454
March	6,177,845	438,175
April	5,878,009	40,000
May	5,603,049	
June	4,677,056	
July	4,288,683	209,443

August	4,247,290	
September	5,144,072	
October	5,749,049	
November	5,643,952	
December	5,202,882	759,056
Totals	65,256,990	1,932,128
Average per month	5,438,083	161,011
Amount per M ft. of gas made	33 001	9771

Anticipated make of gas in ensuing 12 months, as per attached calculations, 2,277,835 M ft.

Assuming use of 33.9781 pounds per M	77,396,505 pounds	
Requirement per month, gross tons	2,879 tons	
Allow 3 months' average supply	8,637 "	
Price reported for coal in Dec. 1923	$11 25 per ton	
" " " coke " "	10 17 " "	
I have assumed 8,637 tons of fuel at	10 50 " "	$90,689

Estimate of Working Capital Required—Continued

1b Boiler Fuel:

Month	Tar gallons	Coal, pounds	Coke, pounds
January	22,981	629,040	731,920
February	20,384	454,040	1,026,860
March	16,611	121,750	1,315,050
April	27,048	296,196	819,600
May	27,668	167,000	649,000
June	67,228		422,000
July	45,712	68,500	589,500
August	46,304	62,391	521,000
September	86,632		325,200
October	72,011	8,530	870,000
November	43,120	27,300	612,000
December	29,851	86,800	558,800
Totals	505,550	1,921,547	8,440,930
Quantity per M ft. gas made	.2556	.97175	4.268
Average per month	42,130	160,129	703,411

[fol. 1435] To arrive at equivalent of sold fuel used as boiler fuel, I use a factor of 15.3 pounds per gallon of tar, thus showing, per M ft. of gas made, in 1923:

Tar— .2556 gallons x 15.3 lbs.	3.91068	pounds	
Coal (all kinds)	.97175	"	
Coke screenings	4.26800	"	
Total pounds of boiler fuel	9.15043	per M ft. of gas.	

Approximate requirements for year, based upon 2,277,835 M ft. of gas made—equivalent, 20,843,169 pounds of boiler fuel.

Tar recovered is assumed to be 16% of oil used.
Oil 2.834 gallons per M ft. of gas made in 1923, on an average, or 6,455,384 gallons per annum required in ensuing 12 months.
16% of oil-tar, or 1,032,861 gallons of tar recovered.

Equal to pounds of solid fuel	15,802,773		
Remainder, solid fuel, pounds	5,040,396		
Average tar recovery per month, gallons	86,072		
Allow two months' supply, gallons	172,144	@ .0475	$8,177
Average coal, per month, pounds	420,033		
Allow 2 months' supply, pounds	840,066	@ .00469	3,940
Total Boiler Fuel			12,117

Estimate of Working Capital Required—Continued

1e Gas Oil:

As shown under Item 1b, the annual oil requirement is figured at 6,455,284 gallons. Used in
1923 5,604,166 "
Approximate monthly requirement, 1924, 537,949 gals.
Available storage capacity, 750,000 gallons, @ price reported for oil in December, 1923 ..... @ .0475 35,625

1d Purification Supplies:

Average expense per M cu. ft. of gas made in 1923, . . .0035
Annual amount for ensuing year $7,972 00
Allow 3 months' supply 1,993

2. Repairs to Plant, Requirements for Labor and Materials:

		Year 1921	1922	1923	per M ft.
2a	Works & Station Structures	$ 0053	$ 0036	$ 0088	
2b	Furnaces, Boilers & Accessories ..	0075	.0056	0059	
2c	Gas Engines	0014	0009	0007	
2e	Misc. Power Plant Equipment	0006	0002	0012	
2f	Water Gas Sets and Accessories .	0026	0024	.0040	
2g	Purification Apparatus	0102	0063	0073	
2h	Holders	0003	0002	0005	

2i	Misc. Equipment	0005	.0007	0037
2j.	Works Tools	.0037	0013	0027
Average per M ft. of gas made, $.03077.		0031	0005	0006
		0352	6217	0354

Cost based on make of 2,277,836 M ft., $70,089.
Allow 1/6th, or average 2 months' requirements, 11,682

[fol. 1436]

3. Works Labor (excluding Repair Labor)

		1921	1922	1923 per M ft.
3a	Works Superintendence, Labor	$.0114	$.0107	$.0104
3b	Boiler House Labor	.0284	.0165	.0136
3c	Generator House Labor	.0323	.0216	.0212
3d	Purifier House Labor	.0027	.0007	.0013
3e	Misc. Works Labor	.0057	.0072	.0078
	Totals, per M cu. ft.	.0805	.0567	.0543

By reason of new plant, I have concluded the average of past two years is more reliable, as a guide than the average of past three years. Perhaps 1923 costs, or even less, should be used; but to be on the conservative side, I use an average of two years.

Average Works Labor Cost per M ft.—$.0555.

Cost per annum based on 2,277,835 M ft. made $126,420.

Estimate of Working Capital Required—Continued

Allow 1/6th, or average two months' requirements, for the reason that this class of labor must be paid currently from week to week and the gas made is not paid for until at least forty days from the date of send-out. To allow for delayed payments, I have increased the allowance to an average of sixty days' works payroll of all men used in the gas production department, not including repair labor, which is included in Item 2 ..... $21,070

4. Gas Storage Charges:

	1921	1922	1923
Total Expense per M ft.	.0110	.0098	.0114
Average cost per M ft.	$.01073		

(I believe the 1923 figure is more representative of future costs than the 3-year average would be.)
Annual requirement for 2,277,835 ft. $25,967.
Allow average of 2 months' requirements 4,328

5. Transmission and Distribution Expense:

	1921	1922	1923
Total Expense per M ft.	$.0359	.0356	.0388
Average cost per M ft. sold	$.0368		

Annual requirement for 2,067,263 M ft. $76,075.
Allow average 2 months' requirements 12,680

6. Distribution Repairs Expense:

	1921	1922	1923	
Total Expense per M ft.	$.0330	.0392	.0410	
Average cost per M ft.	.0377			
Annual requirement for 2,067,263 M ft.	$77,936.			
Allow average 2 months' requirements				12,990

7. General Office Payroll & Expense:

Taking December, 1923, as the average monthly payroll, $2,810.68 and $3,409.50, or total of $6,220.18, as the basis, it is believed an allowance of one month is reasonable, or say 6,500

8. Miscellaneous General Expense:

This includes telephone bills, auditing expense, office rent, etc.
Allow average monthly expense 3,100

[fol. 1437]

9. Insurance:

		1922	1923	
a	Fire insurance	$5,244	$7,035	
	Payable in advance, 30 days' credit. It is assumed that the increase per cent, 1923 over 1922, will not be so high for 1924. Increase was about 35%. I have increased 1923 by 12 per cent and allowed 11 months because of the 30 days' credit			$7,222

Estimate of Working Capital Required—Continued

b Fidelity Insurance

	1922	1923
	$288	$491

There may be some additional expense over 1923 because of increase in business, and I have assumed 11 months' payment of a $500 expense, thus allowing for 30 days' credit 458

c Boiler Insurance

	1922	1923
	$272	$330

I have assumed there will be no additional boilers and no increase in the rate. Allow 11/12th of $330 302

d Casualty Insurance

	1922	1923
	$8,043	$9,443

I have calculated the requirement on the basis of the increased amount of gas to be made in ensuing year, or about 13%. Amount in ensuing year, $10,670. Allow 11/12ths due to 30 days' credit 9,781

e Burglar Insurance

The payment in 1923 was $288.12. Assuming $300, because the increase of 1923 over 1922 was slight, I suggest an allowance of 11/12ths of $300 275

10. Accidents and Damages:

	1921	1922	1923
Amount per annum	$2,165	$1,199	$2,747
Average per annum			$2,037

The smallest amount paid per month in 1923 was $21, and the highest was $401. It is my judgment that one-half of the highest month should be a sufficient allowance 200

11. Stationery & Printing Expense:

The average monthly expense in 1923 was $1,345. I suggest allowance equal to 2 months' expense, bearing in mind that the average monthly cost in 1922 was only $798 2,690

12. Commercial Expenses:

	1921	1922	1923
Cost per M feet	$ 0869	$ 0949	$ 0966

The increase over 1921 was due to a greater promotion expense, which was productive of revenue. It is believed that the fair basis for the future is to take an average cost per M ft. for the past two years, or .0957 per M. Applying this to estimated sales of 2,067,263 M ft., the annual expense would be $197,837. Allowing two months' expense, amount is 32,973

[fol. 1438]

13. Bank Balance:

Amount believed to be needed to make the account acceptable, to be used, if needed, for emergencies. Based upon 1922 balances averaged monthly for year, less accruals for dividends and the quarterly taxes $100,000

Estimate of Working Capital Required—Continued

14.	Cash for Production Materials:	
	To replenish amount expended for gas sold during month, which is not collected immediately because of the time required to deliver bills after the date meter readers take the index reading. One-fifth of a month's requirements	12,456
15.	Gas in Holders:	
	Allow 2,400 M feet	1,920
16.	Gas Ranges	30,000
17.	Miscellaneous Appliances	10,000
18.	Unclassified Materials in Storage	25,000

Recapitulation

1-a	Generator Fuel	$90,689	
1-b	Boiler Fuel	12,117	
1-c	Gas Oil	35,625	
1-d	Purification Supplies	1,993	
	Total, Item 1		$140,424
2-	Repairs to Plant		11,682
3-	Manufacturing Labor		21,070
4-	Gas Storage		4,328

5-	Distribution Expense		12,680	
6-	Distribution Repairs		12,990	
7-	General Office Payroll & Expense		6,500	
8-	Miscellaneous General Expense		3,100	
9-	Insurance:			
a	Fire	$7,222		
b	Fidelity	458		
c	Boilers	302		
d	Casualty	9,781		
e	Burglar	275		
	Total, Item 9		18,038	
10-	Accidents and Damages		200	
11-	Stationery & Printing		2,690	
12-	Commercial Expenses		32,973	
13-	Bank Balance		100,000	
14-	Cash for Materials Used		12,456	
15-	Gas in Holders		1,920	
16-	Gas Ranges		30,000	
17-	Miscellaneous Appliances		10,000	
18-	Unclassified Materials in storage		25,000	
	Total			$446,051

[fol. 1439] DEFENDANTS' EXHIBIT NO. 48

Before Special Master, Hon. Almeth v. Hoff

Kings County Lighting Company

Estimate of Reasonable Operating Cost for Ensuing 12 Months, Based upon the Quality of Gas Made in 1923

A. S. B. Little

I have endeavored to estimate the quantity of gas that will be made, and the amounts that will be used by plaintiff and sold to its consumers in a 12-month period starting approximately on April 1, 1924.

Having made calculations and estimates, based upon plaintiff's books and records as hereinafter shown, of the quantities to be made and sold as set forth above, an attempt has been made, as later appears, to arrive at the reasonable production cost of the gas.

My estimates are based upon the quality of gas made by the plaintiff during the year 1923, and reflect the expenses incurred, as shown by the books, these being modified for the ensuing twelve months after giving consideration to the changed conditions.

The monthly qualities of gas made in the year 1923, and the amounts of oil used were as follows:

Month	Tests by plaintiff			Commission tests	
	Average B. T. U. per ft. tested at works	Min. and Max. B. T. U. per ft. tested at 65th St. Holder Sta. (with date)		Average B. T. U. per ft. tested at 65th St. Holder Sta.	Gallons oil used per 2 ft. made
January	554	1/27 531.1	1/8 557.8	542.68	2.81
February	561	2/10 533.7	2/15 572.9	548.0	2.87
March	550	3/3 528.7	2/28 580.3	554.4	2.87
April	541	4/8 527.0	4/13 573.8	554.2	2.84
May	530	5/30 539.6	5/3 564	548.0	2.85
June	541	6/2 530.5	6/4 564.0	549.1	2.87
July	536	7/8 531.2	7/11 564.6	550.9	2.87
August	542	8/21 537.0	8/13 583.0	557.9	2.86
September	534	9/3 532.3	9/4 585.1	548.4	2.77
October	538	10/7 528.0	10/19 560.0	545.0	2.86
November	533	11/5 530.0	11/5 566.0	545.0	2.78
December	540	12/6 531.0	12/3 558.0	547.0	2.78

[fol. 1440] In attempting to make a reasonable estimate of the gas that would be made, sold, used and unaccounted-for in the 12-month period, statistics relating to the make and disposition of the gas were collected and tabulated for the past eleven years, as follows:

Disposition of Gas, M Cubic Feet

Year	1913	1914	1915	1916	1917	1918
On hand first of yr	2,340.0	2,363.0	1,977.0	2,152.0	2,106.0	1,094.0
Made	892,453.0	954,996.0	1,012,633.0	1,070,266.0	1,232,741.0	1,463,088.0
To be accounted for	894,793.0	957,359.0	1,014,610.0	1,072,418.0	1,234,847.0	1,464,182.0
Gas Sold	730,295.4	818,391.6	851,459.0	934,406.2	1,047,420.0	1,232,847.0
" Used	3,053.2	3,086.7	4,235.8	4,458.2	4,665.0	4,656.0
Unaccounted for	159,081.4	133,903.7	156,763.2	131,447.6	181,668.0	224,396.1
On hand end of year	2,363.0	1,977.0	2,152.0	2,106.0	1,094.0	2,282.0
Total	894,793.0	957,359.0	1,014,610.0	1,072,418.0	1,234,847.0	1,464,182.0
Gas Sold & Used	733,348.6	821,478.3	855,694.8	938,864.4	1,052,085.0	1,237,503.9
Unaccounted for	159,104.4	133,517.7	156,938.2	131,401.6	180,656.0	225,584.1
Gas Made	892,453.0	954,996.0	1,012,633.0	1,070,266.0	1,232,741.0	1,463,088.0
% Unaccounted for	17.83	13.98	15.50	12.28	14.65	15.42

(Continuation of Table)

Year	1919	1920	1921	1922	1923
On hand first of yr.	2,282.0	2,387.0	2,410.0	2,349.0	2,389.0
Made	1,566,628.0	1,792,305.0	1,585,930.0	1,845,870.0	1,977,410.0
To be accounted for	1,568,910.0	1,794,692.0	1,588,340.0	1,848,219.0	1,979,799.0
Gas Sold	1,279,845.2	1,543,138.3	1,390,549.2	1,525,829.4	1,794,969.9
" Used	7,403.6	5,709.6	5,264.8	5,888.8	4,704.6
Unaccounted for	279,274.2	243,434.1	190,177.0	314,111.8	177,736.0
On hand end of year	2,387.0	2,410.0	2,349.0	2,389.0	2,388.5
Total	1,568,910.0	1,794,692.0	1,588,340.0	1,848,219.0	1,979,799.0
Gas Sold and Used	1,287,248.8	1,548,847.9	1,395,814.0	1,531,718.2	1,799,674.5
Unaccounted for	279,379.2	243,457.1	190,116.0	314,151.8	177,735.5
Gas Made	1,566,628.0	1,792,305.0	1,585,930.0	1,845,870.0	1,977,410.0
% Unaccounted for	17.83	13.58	11.99	17.02	8.99

NOTE.—Average used by plaintiff, 5-year perio l ended 1923, was 5,794.3 M cubic feet.

[fol. 1441] Having studied the consumption statistics as shown on the foregoing table, I thought it necessary to give consideration to the figures covering a similar period, but relating to (a) sales of gas, (b) increase or decrease in succeeding years, (c) % of increase or decrease, (d) number of consumers in each year, (e) increase or decrease in consumers in succeeding years, (f) % of increase or decrease. These data are set forth below:

	Gas sales			Consumers		
Year	M. cu. ft.	Inc. or (d) Dec.	%	Number	Inc. or (d) Dec.	%
1913	730,296	.....	....	24,521	....	....
1914	818,392	88,096	12.06	26,544	2,023	8.25
1915	851,459	33,067	4.04	28,925	2,381	8.97
1916	934,406	82,947	9.74	31,898	2,973	10.28
1917	1,047,419.8	113,013.8	12.09	34,871	2,973	9.32
1918	1,232,847.9	185,428.1	17.70	36,308	1,437	4.12
1919	1,279,845.2	46,997.3	3.81	37,942	1,634	4.50
1920	1,543,138.3	263,293.1	20.57	38,506	564	1.49
1921	1,390,549.2	(d)152,589.1	9.89	41,779	3,273	8.50
1922	1,525,829.4	135,280.2	9.73	46,355	4,576	10.95
1913 to 1923	.....	1,064,673.9	145.79	.....	28,742	117.21

Average increase in % in 10 years 11.72%

The final result is a showing that in ten years the number of consumers increased, on an average, 11.72%. This figure is safer to use than the 14.9% increase shown for 1923 over 1922, as in the longer period any abnormalities, such as the year 1920, are ironed out.

Having ascertained the increase in the number of consumers, year by year, as indicated above, it was then considered necessary to analyze the average consumption of gas per consumer. This is set forth below:

Year	Consumption per consumer	Year	Consumption per consumer
1913	29,782	1919	33,732
1914	30,832	1920	40,075
1915	29,437	1921	33,283
1916	29,294	1922	32,916
1917	30,037	1923	33,700
1918	33,955		
Average Consumption per Consumer			32,458

[fol. 1442] With the foregoing figures before me, I gave weight to them in my calculations as follows:

The average yearly use of gas per consumer was:

Period	Consumption in feet
Year 1923	33,700 per annum.
Average for 11 years	32,458 " "
Average for 5 years	34,741 " "

The number of consumers for ensuing 12 months is arrived at as follows:

Consumers in 1923	53,263
Average increase % in 10 yrs	11.72
Consumers in 1924-5 (111.72% of 53263)	59,505

On different bases the sales in forthcoming twelve months would be:

1923 basis, 33,700 feet x 59,505 consumers	2,005,318.5	M cu. ft.
11-year basis, 32,458 ft. x 59,505 consumers	1,931,413.3	" "
5-year basis, 34,741 ft. x 59,505 consumers	2,067,263.2	" "
Based on 17.64% increase in consumption 1923 over 1922 sales of 1,794,969.9 M ft.	2,111,602.6	" "

I have believed it more conservative to make my estimate of amount of gas to be produced on the basis of the 5-year average consumption per consumer multiplied by the average 10-years' increase in number of consumers rather than to use the % increase in consumption of 1923 over 1922.

The resultant figures are:

Gas Sales next 12 months	2,067,263.2	
Gas used	5,794.3	
Gas Used and Sold	2,073,057.5	91.01% of Send-out
*Unaccounted-for	204,777.4	8.99% " " "
Total Send-out	2,277,834.9	100.00%

*Based on 1923 % Unaccounted-for.

[fol. 1443]

Kings Co. Lighting Co.

Estimate of Reasonable Operating Costs

(A. S. B. Little)

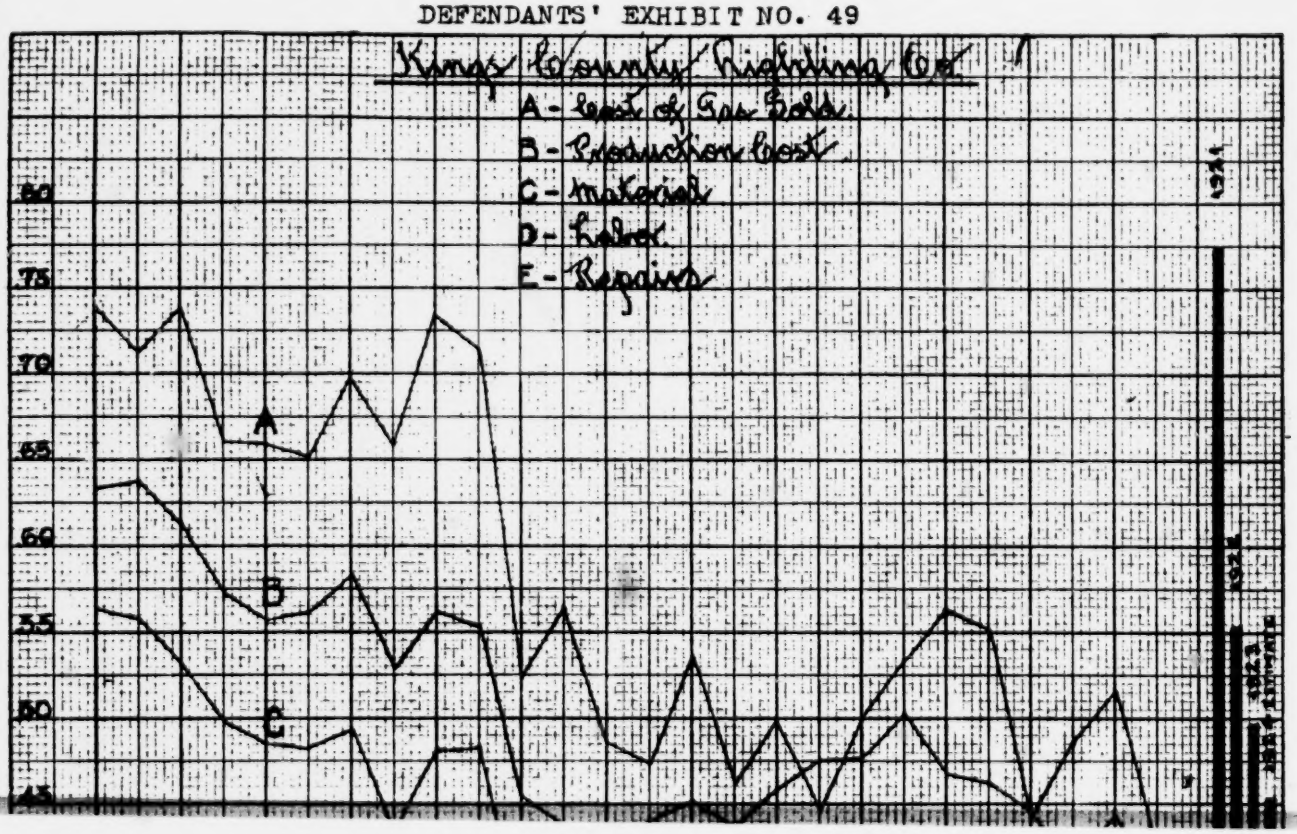
Cost of production	Amount	Estimate per M	Amount	1923 books per M	Amount	1922 books per M	Amount	1921 books per M
Gas to be made—and gas made, M cubic feet		2,277,835.0 M		1,977,410.0 M		1,845,890.0 M		1,585,930.0 M
Gas to be sold—and gas sold, M cubic feet		2,067,263.0 M		1,799,674.0 M		1,531,718.0 M		1,395,814.0 M
Item								
1. Works Superintendence	$21,544	.009458	$20,544	.0104	$19,766	.0107	$18,052	.0114
2. Boiler House Labor	29,612	.013000	26,990	.0136	30,569	.0165	44,996	.0284
3. Generator House Labor	45,557	.020000	41,967	.0212	39,927	.0216	51,246	.0323
4. Purifier House Labor	2,278	.001000	2,552	.0013	1,378	.0007	4,253	.0027
5. Miscellaneous Labor	17,084	.007500	15,326	.0078	13,291	.0072	8,993	.0057
6. Boiler Fuel, Screenings	22,876	.010043	43,012	.0218	39,666	.0215	63,000	.0397
7. Boiler Tar	49,061	.021538	36,005	.0182	38,143	.0207	61,003	.0385
8. Water	4,556	.002000	3,399	.0017	7,680	.0042	13,244	.0083
9. Generator Fuel	351,272	.154214	301,814	.1526	296,868	.1608	269,700	.1700
10. Water Gas Oil	306,631	.134615	291,919	.1476	501,044	.2714	514,330	.3243
11. Purification Supplies	6,833	.003000	6,954	.0035	4,634	.0025	7,262	.0046
12. Miscellaneous Works Expense	28,473	.012500	25,698	.0130	22,428	.0122	18,513	.0117
13. Gas Storage Costs	30,000	.013170	22,569	.0114	18,153	.0098	17,516	.0110
14. Gross Cost, Labor and Material	915,777	.402038	838,749	.4241	1,033,487	.5598	1,092,108	.6886
15. Credit Residuals, Tar only	49,061	.021538	16,181	.0082	51,586	.0279	67,406	.0425
16. Net Cost, Labor and Material	866,716	.380500	822,568	.4159	981,901	.5319	1,024,702	.6461

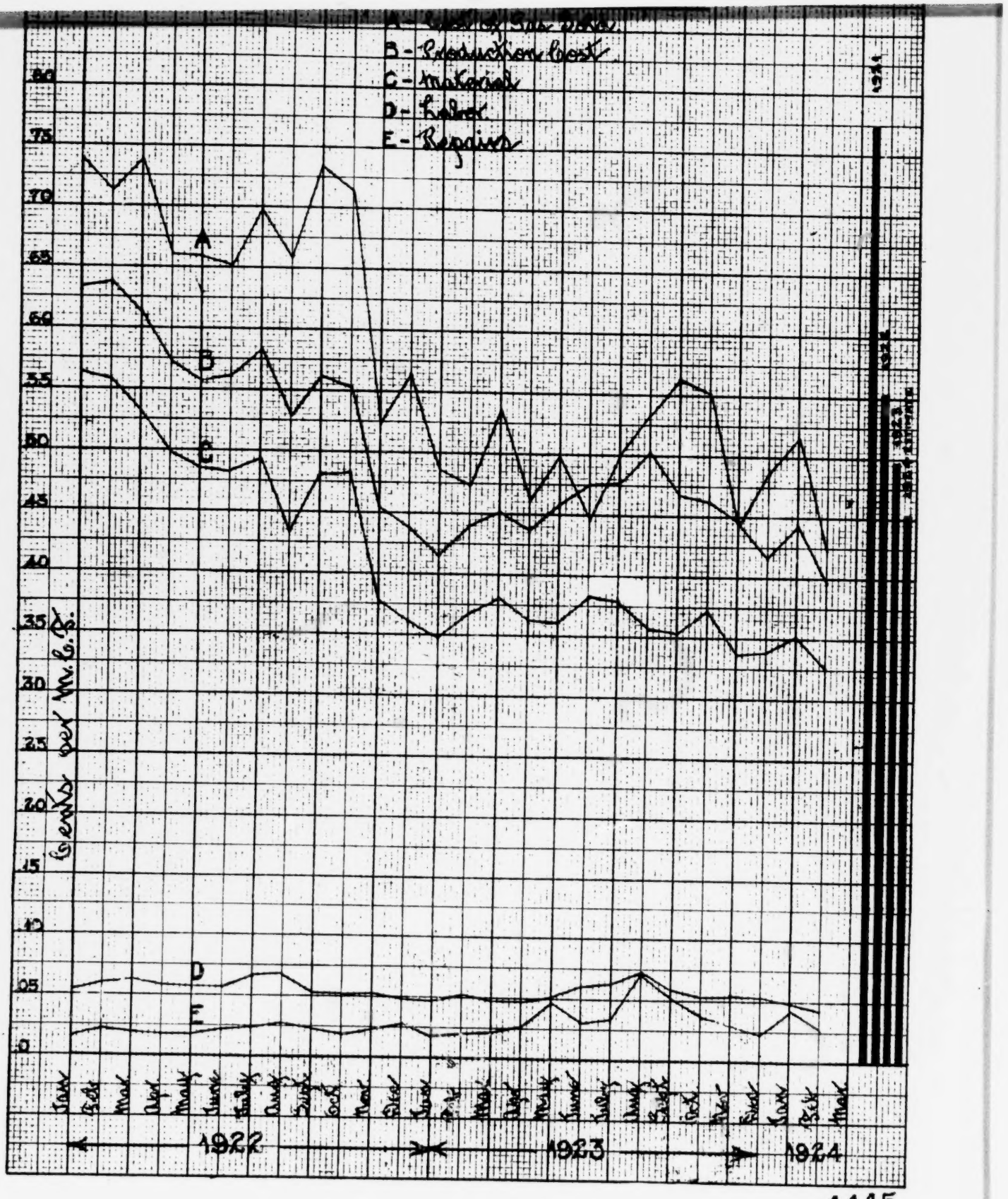
Repairs:								
17. Works and Station Structures....	13,439	.005909	17,222	.0088	6,724	.0036	8,357	.0055
18. Furnaces, Boilers and Accessories	14,426	.006333	11,636	.0059	10,259	.0056	11,839	.0075
19. Steam Engines	2,278	.001000	1,345	.0007	1,532	.0009	2,259	.0014
20. Gas Engines	1,519	.000667	2,320	.0012	308	.0002	961	.0006
21. Misc. Power Plant Equipment....	6,833	.003000	7,973	.0040	4,467	.0024	4,184	.0026
22. Water Gas Sets and Accessories..	18,070	.007933	14,365	.0073	11,597	.0063	16,155	.0102
23. Purification Apparatus	759	.000333	1,016	.0005	446	.0002	421	.0003
24. Holders	3,722	.001634	7,372	.0037	1,264	.0007	779	.0005
25. Miscellaneous Equipment	5,845	.002566	5,463	.0027	2,482	.0013	5,913	.0037
26. Works Tools	1,253	.000550	1,221	.0006	1,001	.0005	4,959	.0031
27. Total Production Repairs.....	68,144	.029916	69,933	.0354	40,080	.0217	55,827	.0352
28. Cost in Holder of Gas Made.....	934,860	.410416	892,501	.4513	1,021,981	.5536	1,080,529	.6813
29. Cost of gas made but not accounted for	.....	.041805	.....	.0446	.....	.1136	.....	.0928
30. Cost in Holder of Gas Sold.....	934,860	.452221	892,501	.4959	1,021,981	.6672	1,080,529	.7741
Distribution:								
31. Pumping	2,067	.001000	1,933	.0010	1,430	.0009	1,138	.0008
32. Superintendence	11,370	.005500	10,584	.0059	8,882	.0058	6,714	.0048
33. Supplies and Expense	9,364	.004433	8,372	.0046	5,960	.0039	6,743	.0048
34. Meter and Installation Work.....	28,596	.013833	26,179	.0146	19,253	.0126	20,000	.0143
35. Work on Consumers' Premises....	22,973	.011113	22,829	.0127	18,985	.0124	15,536	.0112
36. Repairs to Mains	28,735	.013900	28,805	.0160	21,543	.0140	16,224	.0116
37. " " Services	11,095	.005367	12,899	.0072	5,797	.0038	7,090	.0051
38. " " Meters	35,489	.017167	28,913	.0161	31,380	.0205	20,850	.0149
39. " " Distribution Tools	1,860	.000900	2,420	.0013	1,024	.0007	761	.0006
40. " " Appliances	103	.000050	167	.0001	117	.0000	97	.0000
41. " " Distribution Buildings.	1,344	.000650	535	.0003	280	.0002	1,070	.0008
42. Total Distribution Expense.....	152,796	.073912	143,636	.0798	114,651	.0748	96,223	.0689
43. Credit Drip Oil.....	6,767	.003273	in item #15					
44. Net Distribution Expense.....	146,029	.070639	143,636	.0798	114,651	.0748	96,223	.0689

Estimate of Reasonable Operating Costs—Continued

Cost of production	Estimate Amount	Estimate per M	1923 books Amount	1923 books per M	1922 books Amount	1922 books per M	1921 books Amount	1921 books per M
[fol. 1444] Commercial Expenses:								
45. Commercial office	$142,848	.069100	$124,461	.0691	$108,400	.0708	$96,523	.0692
46. Promotion office	44,033	.021300	38,515	.0214	32,508	.0212	18,412	.0132
47. Advertising	8,000	.003870	10,909	.0061	4,059	.0029	6,253	.0045
48. Canvassing and soliciting	.....	.....	.....	.....	.....	.....	.....	.....
49. Total Commercial Expense	194,881	.094270	173,885	.0966	144,967	.0949	121,188	.0869
General Expenses:								
50. Salaries & Expenses, General Officers	34,000	.016447	32,758	.0182	33,055	.0216	25,356	.0182
51. " " " " Clerks.	45,893	.022200	39,993	.0222	35,251	.0230	32,900	.0236
52. General Law Expense	17,000	.008223	16,648	.0093	41,143	.0269	77,965	.0559
53. Miscellaneous General Expense	41,345	.020000	36,773	.0204	33,200	.0217	25,665	.0183
54. Insurance	20,259	.009800	17,587	.0098	14,090	.0092	13,989	.0100
55. Accidents and Damages	2,687	.001300	2,747	.0015	1,200	.0008	2,165	.0016
56. Stationery & Printing	16,952	.008200	16,143	.0090	9,573	.0062	12,977	.0093
57. Renewals and Replacements	16,538	.008000	53,990	.0300	45,952	.0300	41,874	.0300
58. Undistributed Adjustments	.....	.....	118	.0000	2,490	.0016	1,268	.0009
59. Duplicate Gas Charges (Credits)	(6,000)	(.002902)	(6,116)	(.0034)	(8,384)	(.0055)	(7,897)	(.0057)
	188,674	.091268	210,641	.1170	207,570	.1355	226,262	.1621
Taxes:								
60. Special Franchise Tax on Gross Earnings	13,851	.006700	12,088	.0067	11,159	.0073	.....	.....
61. Special Franchise Tax—Taxes	61,398	.029700	53,512	.0297	44,280	.0289	.....	.....
62. Taxes on Land, excluding improvements	22,326	.010800	19,497	.0108	19,639	.0128	.....	.....
63. Capital Stock Tax	2,274	.001100	1,907	.0011	.....	.....	.....	.....
64. Taxes on Land Improvements	58,917	.028500	51,293	.0285	51,567	.0337	.....	.....

DEFENDANTS' EXHIBIT NO. 49




A - Cost of Sales Price
B - Production Cost
C - Materials
D - Labour
E - Repairs
Cents per M. C. F.
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
05
0
A
B
C
D
E
1921
1922
1923
1924
June
July
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Aug
Sept
Oct
Nov
Dec
Jan
Feb
Mar
1922
1923
1924

1445

DEFENDANTS' EXHIBIT NO. 50.

PUBLIC UTILITY BOND SALES, EXCLUSIVE OF TRANSIT COMPANIES.

NEW YORK STOCK EXCHANGE, WEEK ENDED APRIL 12, 1924.

(From Table in New York Times of April 14, 1924.)

COMPANY.	STATE	DESCRIPTION OF BOND	MATURITY	RATE OF INTEREST (%)	SALES	1924 HIGHEST	1924 LOWEST	WEEK ENDED APRIL 12, 1924. HIGHEST	WEEK ENDED APRIL 12, 1924. LOWEST	YIELD About (%)
American Tel. & Tel. Co.	All States	Coll. Trust	1929	4	176	94-5/8	92-5/8	94-1/8	93-5/8	5-1/2
do	do	do	1946	5	69	99-1/4	97-1/8	98-3/8	98	5-1/8
do	do	Debenture	1943	5-1/2	464	100-3/4	98-1/4	100-1/2	100	5-1/2
American Water Works & Elec.Co.	Various States	Coll.Trust	1934	5	141	88	84-1/8	87	85-5/8	7
Atlanta Gas Light Co.	Ga.	First Mtge.	1947	5	1	97	96-1/2	96-5/8	96-5/8	5-1/4
Bell Telephone Co. of Pa.	Pa.	Refunding	1948	5	63	99	97-1/4	98-5/8	97-3/4	5-1/8
Brooklyn Edison Co.	N.Y.	Genl.Mtge. "A"	1949	5	28	100	97-1/2	98-3/4	98-1/4	5-1/8
do	"	" " "B"	1930	6	4	106	102-1/2	104-1/2	103-1/2	5-1/4
do	"	" " "C"	1930	7	2	109	105-5/8	107-3/8	107-1/4	5-1/2
do	"	" " "D"	1940	7	29	109-5/8	108	109	108-5/8	6-1/8
Brooklyn Union Gas Co.	"	First Consol.	1945	5	15	99	98-3/8	98	97-3/4	5-1/8
do	"	First Lien & Ref.	1947	6	1	105	103-1/2	104-7/8	104-7/8	5-5/8
California Gas & Elec.Co.	Cal.	Unify.& Ref.	1937	5	9	98-3/8	97-1/8	97-5/8	97-5/8	5-1/4
Chicago Gas Light & Coke Co.	Ill.	First Mtge.	1937	5	2	96	95-1/2	95-1/2	95	5-1/2
Cincinnati Gas & Elec.Co.	O.	First & Ref. Mtge.	1956	5	5	98-3/8	94-1/4	97-3/8	97	5-1/4
do	O.	First Refdg.	1961	5-1/2	4	99	96-1/4	98	98	5-5/8
Columbia Gas & Elec.Co.	Mid-West.	First Mtge.	1927	5	54	98-5/8	96-1/4	98-5/8	98-1/2	5-1/8
do	"	" " (stamped)	1927	5	19	98-1/2	96-1/4	98-1/2	98-3/8	5-1/8
Commonwealth Power Corp.	"	Secured S.F.	1947	6	63	90-7/8	87	90-3/4	90-1/4	6-7/8
Consolidated Power & Lt.Co.	S. D.	First & Refdg. "A"	1943	6-1/2	3	99-1/2	95-1/8	98	97	6-3/4
Consumers Power Co. of Mich.	Mich.	First & Unify. "C"	1952	5	71	89-1/2	86-7/8	88-3/4	87-7/8	5-7/8
Cumberland Tel. & Tel. Co.	So.States	First & Genl. Mtge	1937	5	2	95-1/2	94-1/8	94-1/2	94-1/2	5-5/8
Denver Gas & Elec.Co.	Colo.	First & Ref. Mtge.	1951	5	30	87-1/8	84-1/4	86-5/8	86-1/2	6
Detroit Edison Co.	Mich.	Refunding "A"	1940	5	20	98	95	97-1/2	96-3/4	5-3/8
do	"	Coll. Trust 1st Mtg.	1933	5	7	100-1/2	99-3/4	99-7/8	99-3/4	5
do	"	Refunding	1940	6	9	106-1/4	104	105-1/4	105	5-1/2
Duquesne Light Co.	Pa.	Coll. Trust	1949	6	41	105-1/4	103-1/4	104-3/4	104-1/8	5-5/8
Empire Gas & Fuel Co.	Kans.	First & Ref.Con."A"	1937	7-1/2	125	93-3/4	90-1/2	91-1/2	91-1/8	8-5/8
Federal Light & Tract. Co.	West	Convert.Deben. "A"	1955	7	1	108	99-3/4	101-3/4	101-3/4	6-7/8
do	"	First Mtge. S.F.	1942	5	2	86	80	83-1/2	83-1/2	6-5/8
do	"	First Mtge.	1942	6	5	96	93	93-1/2	93-1/2	6-5/8
Great Falls Power Co.	Mont.	" "	1940	5	7	99-3/4	98	99-1/2	99-1/4	5
Hackensack Water Co.	N. J.	" "	1952	4	3	80-7/8	79-1/4	79-1/2	79-3/8	5-1/2
Hudson County Gas Co.	"	" "	1949	5	1	95-1/4	94-1/4	95	95	5-3/8
Illinois Bell Telephone Co.	Ill.	First & Refunding	1956	5	55	95-1/4	93-1/2	94-3/4	94-1/4	5-3/8
Indiana Natural Gas & Oil Co.	Ind.	Refunding	1936	5	1	82	82	82	82	7
Kansas City Power & Light Co.	Kans.	First Mtge. "A"	1952	5	34	92	89	91-3/4	90-1/2	5-3/4
Kansas Gas & Electric Co.	"	First Mtge. S.F. "A"	1952	6	15	96-7/8	93	96	95-1/2	6-3/8
Kings County Elec.Light & Pr.Co.	N. Y.	Purchase Money Mtge	1997	6	2	112	110-7/8	112	112	5-3/8
do	"	First Mtge.	1937	5	1	100	99-1/4	99-1/4	99-1/4	5-1/8
Kings County Lighting Co.	"	First Refunding	1954	5	11	80-1/2	77-1/2	80-1/4	80	6-1/2
do	"	" "	1954	6-1/2	14	100-3/4	95	100-1/2	100	6-1/2

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PUBLIC UTILITY BOND SALES, EXCLUSIVE OF TRANSIT COMPANIES
(CONTINUED)

COMPANY	STATE	DESCRIPTION OF BOND	MATURITY	RATE OF INTEREST (%)	1924 SALES	1924 HIGHEST	1924 LOWEST	WEEK ENDED APRIL 12, 1924 HIGHEST	WEEK ENDED APRIL 12, 1924 LOWEST	* YIELD ABOUT (%)
Laclede Gas Light Co.	Mo.	1st Coll. & Refg. "C"	1953	5 1/2	67	95 1/4	91 5/8	92 1/2	92 1/4	6
Laclede Gas Light Co.	Mo.	Refg. & Extension	1934	5	15	95	92	95	94	5 3/4
Louisville Gas & El. Co.	Ken.	1st & Ref.	1952	5	56	91 1/4	88 1/8	89 1/2	89 1/8	5 3/4
Metropolitan Edison Company	Pa.	1st & Ref. "C".	1953	5	38	90	86 1/2	90	89 1/2	5 5/4
Metropolitan Edison Company	Pa.	1st & Ref. Mtg. "B"	1952	6	32	101 1/4	97 3/4	101 1/4	99 3/4	6
Metropolitan Power Company	Pa.	1st Mtg. "A".	1953	6	16	97	94 1/2	96 3/4	96 3/4	6 1/4
Milwaukee Gas Light Company	Wisc.	1st Mtg.	1927	4	12	96 1/4	94 1/2	96 1/4	96	5 1/2
Milwaukee El. Ry. & Light Co.	Wisc.	Genl. & Refg. "A"	1951	5	30	94	92	94	93 1/2	5 1/2
Milwaukee El. Ry. & Light Co.	Wisc.	1st & Refg. "B"	1961	5	8	85 1/4	80 1/8	84 3/8	84	6 1/8
Milwaukee El. Ry. & Light Co.	Wisc.	Refg. & Extension	1931	4 1/2	15	92 3/4	90	92 3/4	91 7/8	6
Milwaukee El. Ry. & Light Co.	Wisc.	1st Consol. Mtg.	1926	5	5	100	98 3/4	99 7/8	99 7/8	5 1/8
Milwaukee El. Ry. & Light Co.	Wisc.	Refg. Mtg. Series "C"	1953	6	24	97 1/2	95 5/8	96 3/4	96 1/8	6 1/4
Montana Power Co.	Mont.	1st & Refg. Mtg.	1943	5	19	97 1/2	95	96	95 3/8	5 3/8
Mutual Fuel Gas Company	Ills.	1st Mtg.	1947	5	12	93 5/8	92	93 1/2	93 1/2	5 1/2
Newark Consolidated Gas Co.	N. J.	Consolidated Mtg.	1948	5	1	95	95 5/8	95	95	5 3/8
New England Tel. & Tel. Co.	New Eng.	1st Mtg. "A"	1952	5	20	99 3/8	97 1/4	98 1/2	98 1/4	5 1/8
New York Edison Company	N. Y.	1st & Refg.	1941	6 1/2	33	111 7/8	109 7/8	111 1/2	110 1/2	5 1/2
New York Gas El. Lt. Heat & Po.Co.	N. Y.	Purchase money	1949	4	16	86	82 1/2	85 1/4	84 1/2	5 1/8
New York Gas El. Lt. Heat & Po.Co.	N. Y.	1st Mtg.	1948	5	17	100	98 1/4	99 1/2	99	5 1/8
New York Steam Corporation	N. Y.	1st Mtg. "A"	1947	6	8	96 1/2	92 1/2	96	95 1/2	6 3/8
New York & Richmond Gas Co.	N. Y.	1st Refg. Mtg. "A"	1951	6	1	95	89	94	94	6 1/2
New York Telephone Company	N. Y.	Deb. S. F.	1949	6	75	107 3/4	105 7/8	106 7/8	106 1/4	5 1/2
New York Telephone Company	N. Y.	Refg. Mtg.	1941	6	73	105 3/8	104	105 3/8	104 7/8	5 1/2
New York Telephone Company	N. Y.	1st & Genl. Mtg.	1939	4 1/2	60	95	93 3/8	94 1/4	94	5 1/8
Niagara Falls Power Company	N. Y.	1st Mtg.	1932	5	22	101 1/4	99	100 1/8	99 7/8	5
Niagara Falls Power Company	N. Y.	Refg. & Genl. Mtg.	1932	6	7	106 1/2	105 3/4	106 1/2	106 3/4	5 1/4
Niagara Lockport & Ontario Pow.Co.	N. Y.	1st Mtg.	1954	5	5	102	100 1/2	102	101 1/2	4 7/8
Niagara Lockport & Ontario Pow.Co.	N. Y.	Refg. Mtg.	1958	6	1	103	99	102 7/8	102 7/8	5 7/8
North American Edison Company	Mid. West	Secured Mtg."B"	1948	6 1/2	64	98 1/2	95	97 7/8	96 3/4	6 3/4
North American Edison Company	Mid. West	Secured S. F. "A"	1952	6	41	93 3/4	91 1/4	92 5/8	92 1/4	6 5/8
Northern Ohio Tract. & Lt. Co.	Ohio	Genl. Mtg. Mtg. "A"	1947	6	31	93	88 1/8	91 1/2	90	6 7/8
Northern States Power Company	Minn.	1st & Refg. Mtg. "A"	1941	5	25	103 7/8	101	102 3/4	102	4 7/8
Northern States Power Company	Minn.	1st & Ref. "B"	1941	6	25	103 7/8	101	103 3/4	102	5 7/8
Northwestern Bell Telephone Co.	N. W.	1st Mtg.	1941	7	71	108 1/2	107 1/2	108	107 1/2	6 1/4
Ohio Public Service Company	Ohio	1st & Refg. "A"	1946	7 1/2	7	108	105 3/4	106 1/4	105 3/4	7 1/4
Ohio Public Service Company	Ohio	1st & Refg. "B"	1947	7	8	102 3/4	100 1/4	102 3/8	102	6 7/8
Pacific Tel. & Tel. Co.	Calif.	1st & Coll.	1937	5	12	97 7/8	96	97 5/8	97 3/8	5 1/4
Pacific Tel. & Tel. Co.	Calif.	Refg. "A"	1952	5	71	92 1/2	90 5/8	92	91 1/2	5 5/8
Pacific Gas & El. Co.	Calif.	Genl. & Refg.	1942	5	72	93 1/4	90 3/4	92	91 3/4	5 3/4
Pacific Power & Light Company	Wash.&Ore.	1st & Refg.	1950	5	62	95 7/8	92 1/2	95 7/8	94 1/2	6 1/2
Peoples Gas Light & Coke Co.(Chi)	Ills.	1st & Refg.	1947	5	13	91 1/2	87 1/4	91 1/2	91 1/8	5 5/8
Peoples Gas Light & Coke Co.(Chi)	Ills.	1st Consol. Mtg.	1943	6	5	106 3/4	104 1/4	105 3/8	105 3/8	5 1/2
Philadelphia Company	Pa.	1st & Refg. Coll.	1944	6	54	102 5/8	99 5/8	101 7/8	101	5 7/8
Philadelphia Company	Pa.	Convert. Deb.	1938	5 1/2	43	92 3/4	90	91 1/2	90 7/8	6 1/2
Portland General Electric Co.	Ore.	1st Consol.	1935	5	5	97 3/4	95	97 1/2	97 1/2	5 1/4
Portland Railway Company	Ore.	1st & Refg.	1930	5	4	88	86	88	87 3/8	6 1/8
Portland Railway Lt. & Pow. Co.	Ore.	1st & Refg. Mtg.	1942	5	18	84 1/8	80 3/8	84 1/8	84	6 1/2
Portland Railway Lt. & Pow. Co.	Ore.	1st & Refg. Mtg.	1947	6	1	93 7/8	89 1/4	91 3/8	91	6 3/4

COMPANY	STATE	DESCRIPTION OF BOND	MATURITY	RATE OF INTEREST (%)	SALES	1924 HIGHEST	1924 LOWEST	WEEK ENDED APRIL 12, 1924 HIGHEST	WEEK ENDED APRIL 12, 1924 LOWEST	* YIELD ABT.(%)
Portland Ry. Lt. & Power Co.	Ore.	1st & Refg. Mtg. "A"	1946	7 1/2	1	104 1/2	103 1/8	103 1/8	103 1/8	7 1/4
Public Service El. Power Co.	N. J.	S. F.	1948	6	147	99	97	99	98 1/2	6 1/8
Public Service Company	N. J.	Genl. Mtg.	1959	5	109	89 7/8	77	89 7/8	88 5/8	5 3/4
San Antonio Public Service Co.	Texas	1st & Refg. Mtg. "A"	1952	6	9	96 7/8	93 3/4	96	95	6 3/8
Sierra and San Francisco Pow. Co.	Calif.	1st Mtg.	1949	5	4	88	83 3/4	85 1/2	85	6 1/4
Southern Bell Tele. Co.	So. States	1st Mtg. S. F.	1941	5	27	96 1/2	94	95 3/4	95	5 3/8
Southern Calif. Power Company	Calif.	"A"	1947	5	9	90	87	90	89	5 7/8
Southwestern Bell Telephone Co.	So. West	Refg. Mtg.	1954	5	271	94 1/2	93 1/8	93 1/2	93 1/8	5 1/2
Standard Gas & El. Company	So.&N.West	Convert. S. F.	1926	6	18	104 7/8	100	104 7/8	104 3/8	3 7/8
Standard Gas & El. Company	So. & N.West	Convett. Deb.	1935	6 1/2	57	98 1/2	95 1/2	97 3/8	95 1/2	7 1/4
Syracuse Light & Power Co.	N. Y.	Coll. S. F.	1954	5	2	105	84 1/8	104 7/8	104 7/8	4 3/4
Tenn. Elec. Power Company	Tenn.	1st & Refg. Mtg.	1947	6	109	96 1/4	93 5/8	96 1/4	95 3/4	6 3/8
Toledo Traction Light & Pow. Co.	Ohio	1st Mtg. S. F.	1925	6	16	100	98 1/2	99 3/4	99 1/2	6
Toledo Edison Company	Ohio	1st Mtg.	1941	7	26	108	106	107 3/4	107 1/4	6 1/4
Union Elec. Light & Power Co.	Mo.	1st Mtg.	1932	5	72	96 3/4	92	96 1/2	95 3/8	5 3/4
United Fuel Gas Company	W. Va.	1st Mtg. "A"	1956	6	24	97 1/2	92 1/2	95 7/8	95	6 3/8
Utah Power & Light Company	Utah	1st Mtg.	1944	5	21	91 1/2	87 1/4	89 1/2	89	6
Utah Light & Tract. Co.	Utah	1st & Refg. Mtg.	1944	5	17	86 3/8	80	81 7/8	81	6 3/4
Utica Gas & Elec. Co.	N. Y.	Refg. & Extension	1957	5	7	94	90 1/8	93	92 5/8	5 1/2
Virginia Ry. & Power Co.	Va.	1st & Refg. Mtg.	1934	5	16	91	88	90 1/8	90	6 3/8
Westchester Lighting Company	N. Y.	1st Mtg.	1950	5	2	98	96 3/8	98	98	5 1/8
West Penn Power Company	Pa.	1st Mtg. "A"	1946	5	7	91	89 3/8	91	90 3/4	5 3/4
West Penn Power Company	Pa.	1st Mtg. "C"	1958	6	1	102	101	101	101	5 7/8
West Penn Power Company	Pa.	1st Mtg. "D"	1946	7	6	106 1/2	104 1/4	106 1/8	105 3/8	6 1/2
West Penn Power Company	Pa.	1st Mtg. "E"	1963	5	2	89 1/4	86 3/4	88	88	5 7/8
Western Union Tel. Co.	All states	Coll. Trust	1938	5	5	99 1/8	96 7/8	98	97 3/4	5 1/4
Western Union Tel. Co.	All states	Funding & Real Estate	1950	4 1/2	23	94	90 3/8	92 1/4	92	5
Western Union Tel. Co.	All states	Imp. & Ext.	1936	6 1/2	15	111 3/4	108 5/8	110 5/8	110	5 3/8

* The yields shown in this column did not appear in the N. Y. Times but were taken from a bond table.

Yield counts to maturity, the discount on premium being spread over remaining life of the bond.

DEFENDANTS' EXHIBIT NO. 51.

PUBLIC UTILITY STOCK SALES, EXCLUSIVE OF TRANSIT COMPANIES.
NEW YORK STOCK EXCHANGE, WEEK ENDED APRIL 12, 1924.
(FROM TABLE IN NEW YORK TIMES OF APRIL 14, 1924)

COMPANY	DESCRIPTION	SALES (NO. OF SHARES)	PAR VALUE	DIVIDEND ($)	1924 HIGHEST	1924 LOWEST	WEEK ENDED APRIL 12, 1924. HIGHEST	LOWEST	YIELD * ($)
American Tel. & Tel. Co.	Common	6,100	100	9	130 7/8	123	127 5/8	126	7.14
American Water Works & El. Co.	Common	9,000	100	None	51 1/4	40	51 1/4	44 1/2	None
Do	First Preferred	900	100	7	92 1/2	89 1/2	92 1/2	90 1/8	7.78
"	Participating Pref.	3,400	100	4	74	66	74	70 7/8	5.64
Brooklyn Edison Company	Common	400	100	8	114	109	111	110 1/2	7.24
Brooklyn Union Gas Co.	Common	200	No par	$6	60 1/4	57 1/4	58	57 1/4	7.00
Columbia Gas & El. Co.	Common	10,500	" "	$2.60	38	33	34 1/2	33 1/2	7.88
Consolidated Gas Co.	Common	13,000	" "	$6	67 3/4	60 7/8	62 3/4	61 3/8	8.15
Detroit Edison Co.	Common	700	100	8	108 1/4	106	106	106 1/2	7.65
Duquesne Light Company	First Preferred	200	100	7	106 3/4	102	102 5/8	102 1/2	6.88
Kansas City Power & Lt. Co.	First Preferred	300	No par	$7	96	92	95 1/2	95	7.37
Laclede Gas Light Company	Preferred	10	100	5	73	73	73	73	6.88
Do	Common	2,100	100	7	95 1/8	79	95	93 1/2	7.49
Metropolitan Edison Co.	Preferred	200	No par	$7	93 1/4	90 1/4	91	90 1/4	7.76
Montana Power Co.	Common	400	100	4	65	61 1/2	65	62 1/2	6.40
Montana Power Co.	Preferred	100	100	7	106	104 1/4	106	106	6.67
Pacific Gas & El. Co.	Common	600	100	8	95 7/8	90 1/8	92 3/4	92	8.69
Public Service Co. N. J.	Common	3,800	No par	4	44 1/2	39	43 3/4	42	9.52
Do	Cum. Preferred	300	100	8	102	100	100 1/4	100	8.00
"	" "	200	100	7	99	96 1/2	97 1/2	97 1/2	7.18
Philadelphia Company	Common	1,500	50	4	47	45	44 3/8	44 3/4	9.14
Philadelphia Company	Preferred	600	50	3	45 3/4	42 1/4	42 1/2	42 1/2	7.06
Pittsburg Utilities Co.	Preferred	1,900	10	12	13 1/4	9 7/8	12 3/4	12	10.00
Pittsburg Utilities Co.	Preferred Certifs.	100	10	12	13	11 1/8	12 3/4	12 3/4	9.41
Peoples Gas Lt. & Coke Co. (Chi)	Common	400	100	7	98 1/2	93 1/2	94 1/4	93 1/2	7.48
Utah Securities Co.	Common	42,600	100	None	29 3/4	18 5/8	29 3/4	26 3/4	None
Virginia Railway & Power Co.	Common	100	100	None	39	36	37	37	None
West Penn Co.	Common	1,900	100	4	59	47 1/2	59	58	7.27
Do	Preferred	1,100	100	7	91	89 1/2	90 1/2	90 1/2	7.73
Western Union Tel. Co.	Common	800	100	7	113	106	108	106	6.60

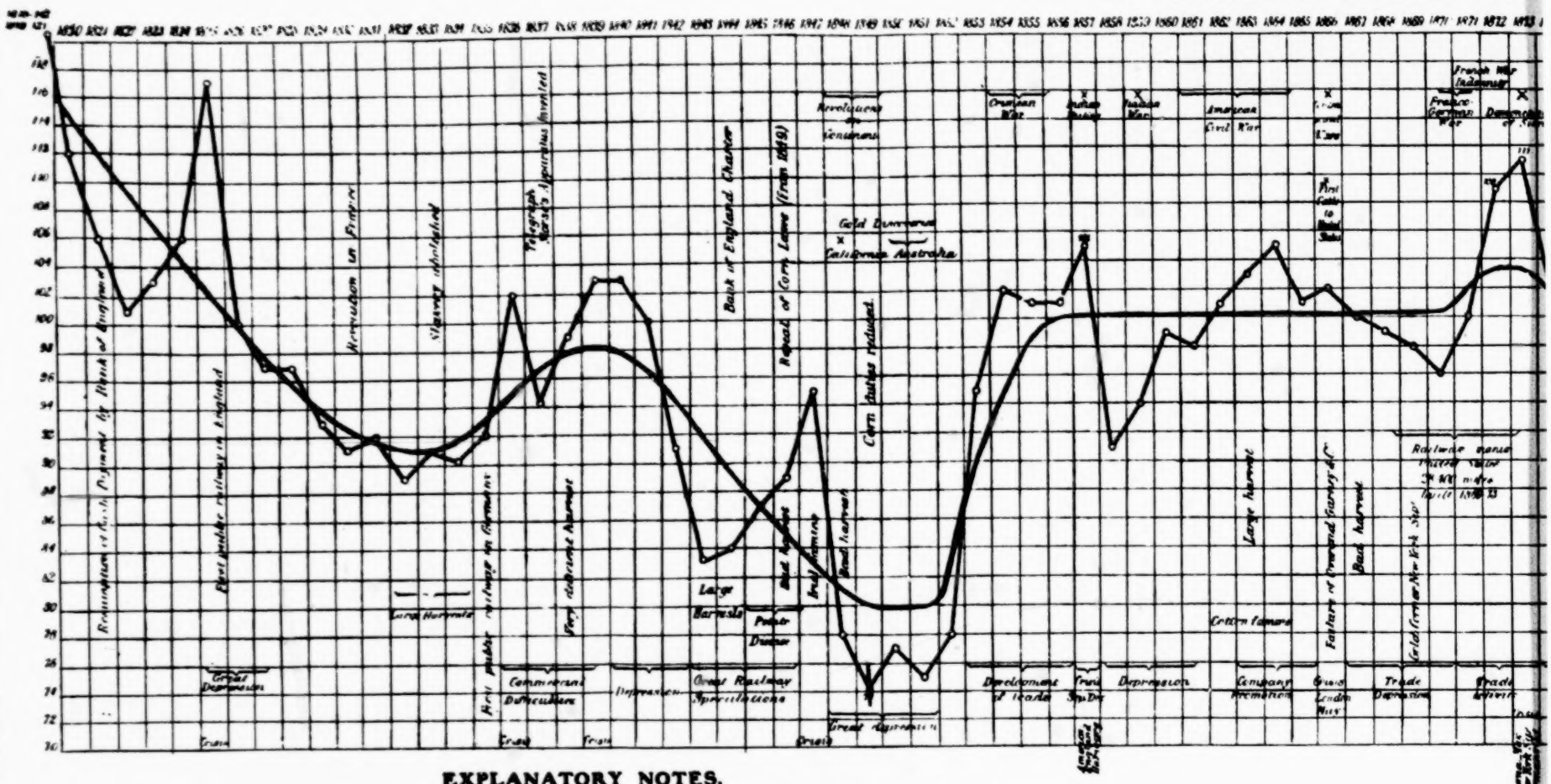
* The yields shown in this column did not appear in the N. Y. Times but were computed on the basis of the lowest sales price obtaining during the week ended April 12, 1924.

DEFENDANTS' EXHIBIT N(

COURSE OF AVERAGE PRICES OF GENERAL

(AVERAGE OF 1867-1877 BEIN

COMPILED BY AUGUSTUS SAUER



EXPLANATORY NOTES.

The *Diagram* gives the course of prices in England according to my *Index Numbers* of 45 commodities (before 1846 only 31 principal commodities). It formed part of my paper on "Prices of Commodities and the Precious Metals," and was first published—with movements up to 1885—in the Journal of the Royal Statistical Society. The commodities comprise the following, some of the more important articles being represented by two descriptions: Wheat, flour, barley, oats, maize or Indian corn and rice, beef, mutton, pork, bacon and butter, sugar, coffee and tea, coal, copper, tin, lead and steel, cotton, flax, hemp, jute, wool and silk, hides, leather, tallow, palm-oil, olive-oil, linseed oil, petroleum, soda, nitrate, indigo and timber.

The *Index Numbers* have been constructed in the following manner: The average prices of the 11 years 1867-77—which in the aggregate are equivalent to the average of the 25 years 1853-77—were called 100 in the case of each commodity and the percentage variation was calculated for each year; for instance, English wheat, average 1867-77 = 54/6½ ₱ qtr. equal to **100**, average price in 1885 74/6d. equal to **137** (or 37 per cent. *above* the average point) and average price 1907 = 30/7d. equal to 56 (or 44 per cent. *below* the average point). The percentage figures of all articles in each year were added together and divided by the total number of commodities and the figure thus obtained formed the Index number for the respective year; for instance, 1907, total numbers of 45 commodities = 3588, Index Number 80 or 20 per cent. *below* the average point. The Index Number is therefore the arithmetical mean, all articles being considered as of equal value. By the test of quantities—according to the importance of each article—the result was found to be perfectly reliable.

Average Prices of all Commodities in each year, Average of 1867-77 being 100.

Hand-drafted average line of movements eliminat from year to year. This is more suitable fo the line of the average index numbers of 10 which are contained in the table of prices.

AUGUSTUS SAUERBECK, F.S.S.,
8, MOORGATE STREET BUILDINGS, LONDON.

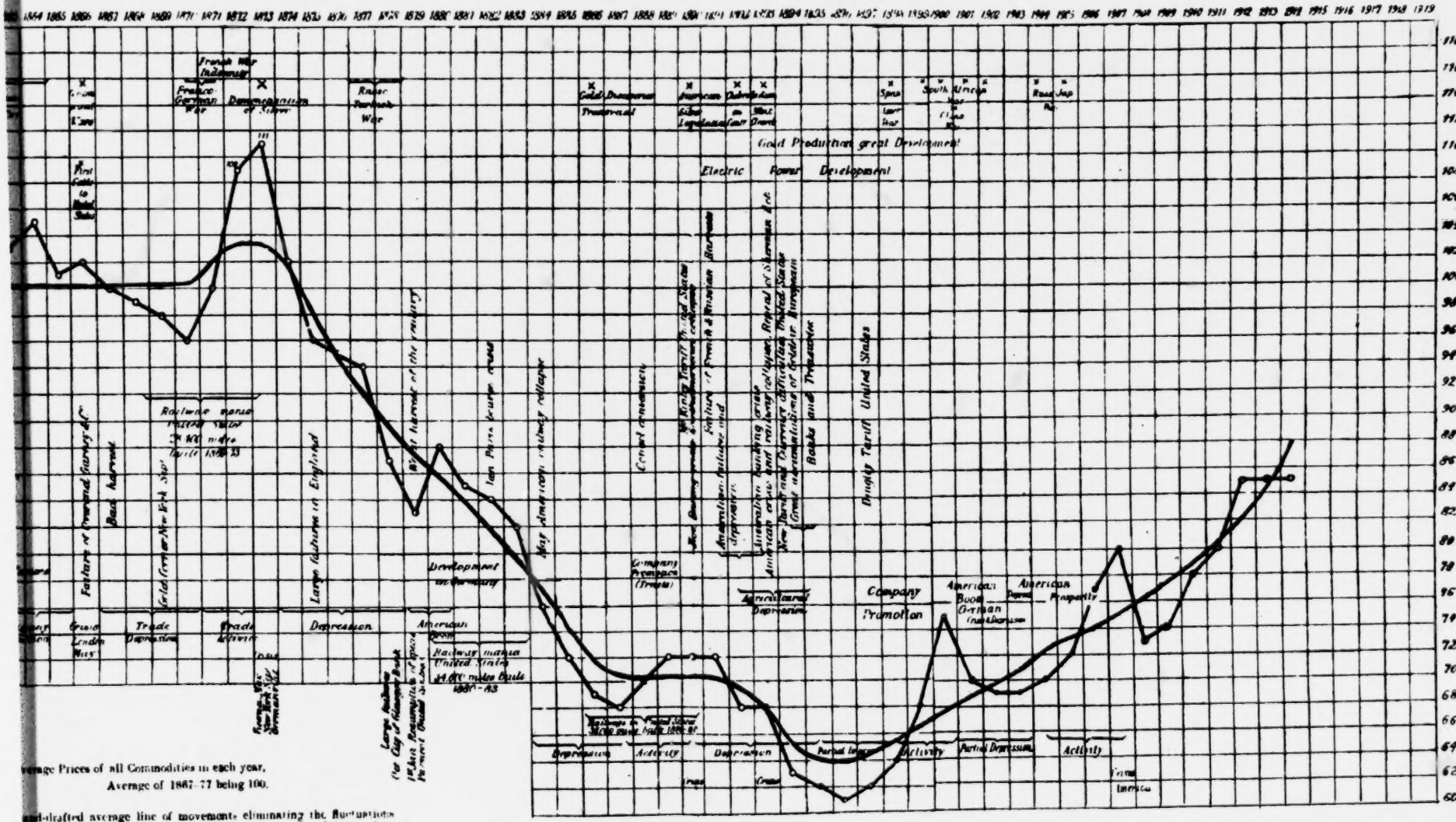
DEFENDANTS' EXHIBIT NO. 52

1450

CES OF GENERAL COMMODITIES IN ENGLAND.

AVERAGE OF 1867-1877 BEING 100.)

ED BY AUGUSTUS SAUERBECK. F.S.S.



verage Prices of all Commodities in each year,
Average of 1867-77 being 100.

and-drafted average line of movements eliminating the fluctuations from year to year. This is more suitable for the diagram than the line of the average index numbers of 10 years, the figures of which are contained in the table of prices.

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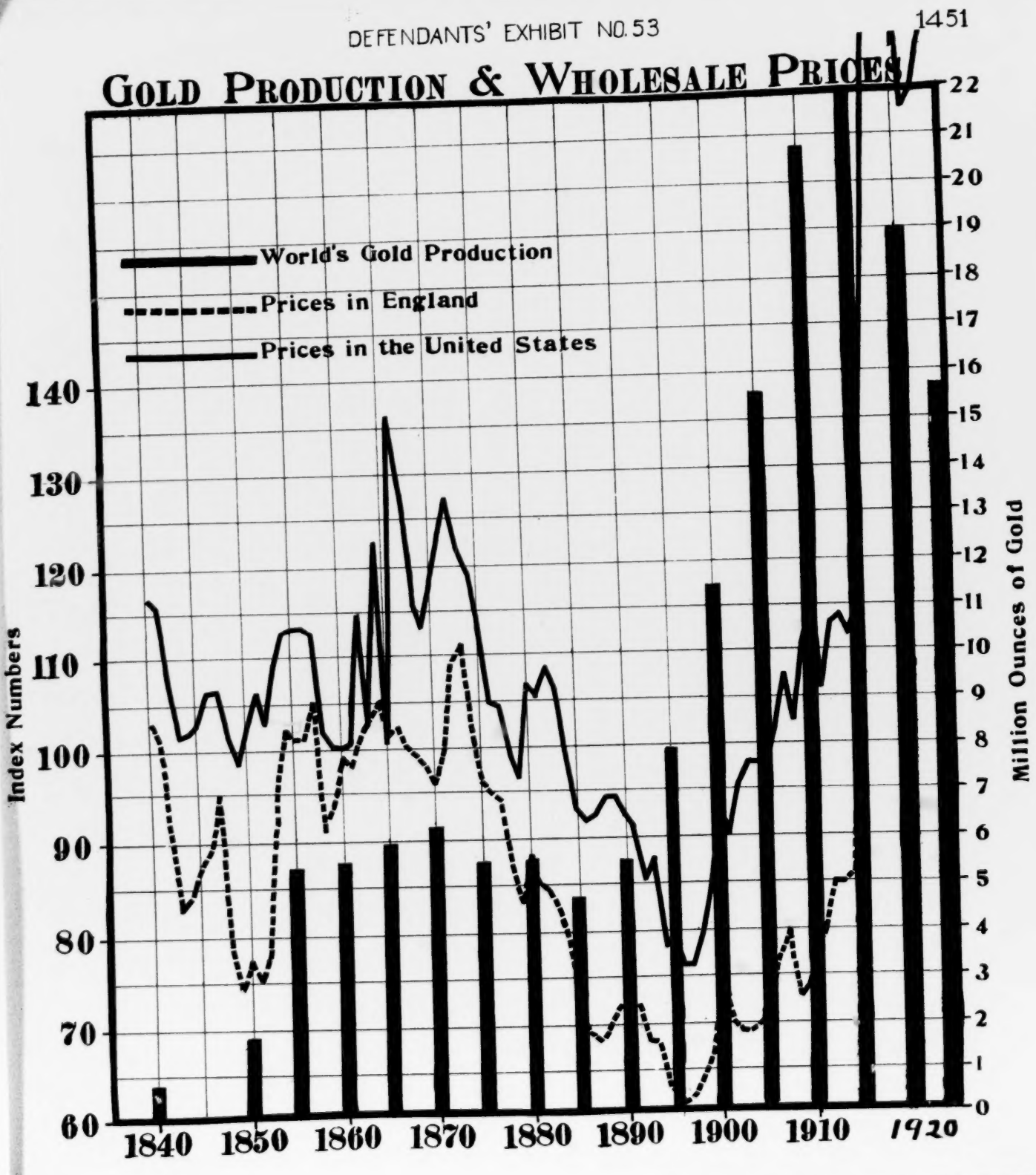
ENTERED AT STATIONERS' HALL

DEFENDANTS' EXHIBIT NO. 53

1451

GOLD PRODUCTION & WHOLESALE PRICES



65. State Dividend Tax.....	3,101	.001500	2,690	.0015	.....	.....	.....	.....
66. Federal Income Tax*.....	.....	.....	68,304	.0380	38,401	.0251	.....	.....
67. Miscellaneous, Non-operating (deleted)	.....	.....	.....	.....	.....	.....	.....	.....
68. Taxes on Personal Property.....	.....	.....	.....	.....	137	.0001	.....	.....
Total Taxes	161,867	.078300	209,291	.1163	165,283	.1079	151,203	.1083
NOTE.—Item 66. I have not included Federal Income Tax, the rate being uncertain and this being an expense to be considered along with the question of reasonable rate of return.								
69. Credit Miscellaneous Revenues....	(73,869)	(.035733)	(81,958)	(.0455)	(59,129)	(.0386)	(32,267)	(.0231)

Recapitulation:

Items	Description							
1–30	Cost in Holder, based on Gas sold	$934,860	.452221	$892,501	.4959	1,021,981	.6672	1,080,529	.7741
31–44	Distribution Department Costs.	146,029	.070639	143,636	.0798	114,651	.0748	96,223	.0689
45–49	Commercial Office Expense.....	194,881	.094270	173,885	.0966	144,967	.0949	121,188	.0869
50–59	General Office Expense.....	188,674	.091268	210,641	.1170	207,570	.1355	226,262	.1621
60–68	Taxes (see note above).....	161,867	.078300	209,291	.1163	165,283	.1079	151,203	.1083
	Gross Operating Cost and Taxes	$1,626,311	.786698	$1,629,954	.9056	1,654,452	1.0803	$1,675,405	1.2003
69	Credit Miscellaneous Gas Revenues	73,869	.035733	81,958	.0455	59,129	.0386	32,267	.0231
70	Net Cost of Gas(**).....	1,552,442	.750965	$1,547,996	.8601	1,595,323	1.0417	$1,643,138	1.1772

NOTE.—**In my estimate, as already noted, Income Tax is not included in the cost of .750965c. per M ft.

(Here follow Defendants' Exhibits Nos. 49, 50, 51, 52, and 53, marked side folio pages 1445, 1446, 1447, 1448, 1449, 1450 and 1451)

[fol. 1452] Clerk's certificate to foregoing transcript omitted in printing.

[fol. 1453] In United States District Court, Eastern District of New York

[Title omitted]

Stipulation re Transcript of Record

It is hereby stipulated and agreed, that the foregoing is a true transcript of the record of the said District Court in the above entitled matter as agreed on by the parties.

Dated May 4, 1926.

John Holley Clark, Jr., P. E. B., Attorney for Defendant-Appellant. Samuel F. Moran, Attorney for Plaintiff-Appellee.

Approved. Francis N. Winslow, U. S. District Judge.

[fol. 1454] In Supreme Court of the United States

Statement of Points to be Relied Upon and Stipulation to Print the Entire Record—Filed May, 1926

It is hereby stipulated and agreed that the transcript of the record in the above entitled matter, as agreed upon by the parties and as docketed in the office of the clerk of this court, be printed in full.

Samuel F. Moran, Solicitor for Appellee-Plaintiff. John Holley Clark, Jr., P. E. B., Solicitor for the Appellant-Defendant.

Dated New York, April 29, 1926.

[fol. 1455] To the Honorable the Supreme Court of the United States:

The defendant-appellant above named respectfully submits the following Statement of Points, upon which he

will rely, in the above entitled cause, pursuant to rule 11, of the rules of the Supreme Court of the United States:

1. Every presumption is in favor of the validity of the Statute, and the burden of proof is upon the party assailing such Statute to establish its unconstitutionality beyond a reasonable doubt.

2. The Statute should not be declared confiscatory until plaintiff has experimented with the statutory rate.

3. The proper rate base for plaintiff Company in a confiscatory case of this kind or for the fair value of its property used and useful in the gas business and upon which it is entitled to a return does not exceed the sum of $7,400,000.

4. An adequate deduction for accrued depreciation should have been made.

[fol. 1456] 5. There is no justification for an additional allowance for going value in this case.

6. The sum of $500,000 for working capital is ample in this case.

7. The reasonable and necessary cost of making and distributing gas for the year ending December 31, 1924, should have been found to be not greater than 76.15 per cubic feet sold and in any proper view of the severe downward trend of production costs there is no justification for declaring this Statute unconstitutional without experimentation.

8. The price and standard provisions of Chapter 899 of the Laws of 1923 are so independent of each other that this Court should declare them separable, and in the event the standard provision is found unconstitutional the price provision may still stand.

9. Each and all of the Assignment of Errors as filed with the clerk of the Court below, setting out separately and particularly each of the Errors asserted.

Yours, etc., John Holley Clark, Jr., Solicitor for Defendant-Appellant Ottinger, 120 Broadway, New York City. John Holley Clark, Jr., Charles E. Buchner, of Counsel

Dated May 13, 1926.

[fol. 1457] Personal service of a copy of within Statement of Points is admitted this 13th day of May, 1926.

Samuel F. Moran, Att. for Ptlff.

[fol. 1458] [File endorsement omitted.]

Endorsed on cover: File No. 31,903. E. New York D. C. U. S. Term No. 365. Albert Ottinger, as Attorney-General of the State of New York, appellant, vs. Kings County Lighting Company. Filed May 6th, 1926. File No. 31,903.

FILED
OCT 16 1926
WM. R. STANSBURY
CLERK

Supreme Court of the United States

OCTOBER TERM, 1926.

No. 365.

ALBERT OTTINGER, as Attorney General of The State of New York,

Appellant,

vs.

KINGS COUNTY LIGHTING COMPANY,

BRIEF ON BEHALF OF APPELLANT ALBERT OTTINGER AS ATTORNEY-GENERAL.

ALBERT OTTINGER,
Attorney-General of the
State of New York,
Capitol, Albany, N. Y.

JOHN HOLLEY CLARK, JR.,
Solicitor for Appellant Ottinger,
120 Broadway,
New York City.

WILLIAM HAYWARD,
JOHN HOLLEY CLARK, JR.,
CHARLES E. BUCHNER,
ANTHONY P. LUDDEN,
of Counsel.

Henricks & Layng, Inc., 76½ Pine Street, New York City

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Reno Power, Light and Water Co. v. Public Service Commission, P. U. R., 1923-E., 500 54
San Diego Land and Town Co. v. Jasper, 189 U. S., 439, 446 63
St. Joseph Railroad, Light, Heat and Power Co., P. U. R., 1921-C., 767 55
Smyth v. Ames, 169 U. S., 466, ...14, 19
Stanislaus County v. San Joaquin C. and I. Co., 192 U. S., 201, 216 63
Willcox v. Consolidated Gas Co., 212 U. S., 19, 48, 50 63

Supreme Court of the United States

ALBERT OTTINGER, as Attorney-General of the United States,
Appellant,
against
KINGS COUNTY LIGHTING COMPANY.

BRIEF ON BEHALF OF APPELLANT.

Statement.

This is an appeal from a decree of a statutory Court in the Eastern District of New York entered September 9, 1925, declaring unconstitutional and void as to the appellee Chapter 899 of the Laws of 1923.

The statute involved was entitled "An act to amend the Public Service Commission Law in relation to the charge for illuminating gas in cities containing a population of one million or more" and added to the then existing Public Service Commission Law, a new section, reading as follows:

> "67 (a) Charge for gas in cities of one million or more.
>
> "A gas corporation engaged in the business of manufacturing, furnishing or selling illuminating gas in a city containing a population of one million or more shall not charge or receive for gas furnished or sold in such city a sum per one thousand cubic feet in excess of one dollar, nor furnish in such city gas of a standard less than six hundred and fifty British Thermal Units per cubic foot, meas-

ured under normal conditions of temperature and atmospheric pressure. The Public Service Commission, notwithstanding any other provision of this chapter, shall not allow a rate or charge in the case in such cities in excess of such sum.

"SECTION 2. This act shall take effect immediately."

The Court below sustained all of the contentions of plaintiff-appellee holding in effect:

(1) That the rate and standard provisions are inseparable.

(2) That rate and standard are each unconstitutional as respectively confiscatory and impossible of performance.

Twenty-one errors are assigned (pp. 98-105). All will be relied upon except that no argument will be made on working capital.

Of these several, namely, Nos. 1, 2, 11, 17-21 are general assignments alleging error in the general conclusions of the Court in regard to the unconstitutionality of the statute.

The remainder fall under a few heads. It is the contention of appellant that the Court below erred in its findings in the following particulars:

1. As to rate base that the Court took too high a figure in that

(a) Its finding as to reproduction new is excessive (Assignment of Error No. 3).

(b) It failed to deduct any adequate amount for depreciation and failed to deduct the reserve for depreciation and contingencies in the sum of $201,910 (Assignments of Error Nos. 4, 15).

(c) No separate allowance for going value was justified (Assignment of Error No. 5).

(d) The finding of fair value of $11,200.656 is excessive and gives no real consideration to any factor except reproduction new without depreciation (Assignment of Error No. 6).

2. As to operating expenses that production costs as found are excessive in that not sufficient credit was given for water gas tar produced as a by-product and used as a fuel, and the Master should have found as operating costs for 1924 the estimates of appellant's witness Little (Assignments of Error Nos. 8-10).

3. That there is no justification for the finding of the Court that any return of less than 8% on the fair value of plaintiffs' property would prove confiscation (Assignment of Error No. 7).

4. That the Court should not have found that both rate and standard are unconstitutional. Both should have been upheld but the statute should be considered as severable and if the standard should be declared unconstitutional the rate should stand and vice versa (Assignments of Error Nos. 12, 13, 16).

History of Appellee and its Rates.

A succinct history of appellee and its rates is contained in the exhaustive opinion of Greenbaum, J., in Kings County Lighting Co. v. Lewis, 110 M., 204, There the Court said (pp. 206-209):

> "The plaintiff is the immediate successor of the Kings County Gas and Illuminating Company, a corporation which came into existence

in 1889. The evidence justifies the conclusion that the formation of that company was prompted by the circumstance that on December 26, 1889, its promoters had secured from the former town of New Utrecht, now the Thirtieth Ward of the Borough of Brooklyn, in which the plaintiff operates, a ten-year lighting contract to commence September 2, 1891. Under this contract it became entitled to receive twenty-eight dollars per annum for each lamp on the highways lighted by it and to supply gas to public buildings and private consumers at a sum not to exceed two dollars and twenty-five cents per 1,000 cubic feet. The contract was subsequently extended on March 19, 1891, for a further period of fifteen years. The new contract differed from the first in providing for a reduction of the rate for public buildings and private consumers to a sum not exceeding one dollar and seventy-five cents per 1,000 cubic feet.

"Upon its incorporation the illuminating company, as it will be called hereafter for the sake of brevity, issued capital stock to the amount of $1,000,000 and at the same time put forth an issue of five per cent. bonds in the amount of $750,000 to be secured by its first mortgage. So far as the proofs show, this company began business with practically no cash in its treasury.

"The town of New Utrecht was annexed to the City of New York in 1894 by virtue of Chapter 451, Laws of 1894. Upon such annexation the company became subject to the provisions of Section 70, Chapter 566 of the Laws of 1890, which fixed one dollar and twenty-five cents per 1,000 cubic feet as the maximum rate for gas sold to the public in cities of the first class.

"By Chapter 125 of the Laws of 1906, the legislature enacted that on and after May 1, 1906, the charge for gas in the Thirtieth Ward of Brooklyn should not exceed one dollar per 1,000 cubic feet. That act was amended by Chapter 604 of the Laws of 1916, which fixed the maximum rate on and after July 1, 1916, for the Boroughs of Manhattan and Brooklyn at eighty cents per 1,000 cubic feet.

"It appears from the minute books of the illuminating company, which were produced by the plaintiff and introduced in evidence by the defendants, that when that company was organized one George E. Bartlett, who was a contractor and builder, owned the land at Sixty-fifth Street and Ninth Avenue in the town of New Utrecht, where the present gas holders of the plaintiff company are located. This land he sold to the illuminating company in consideration of the transfer to him of the company's bonds in the amount of $20,000 and of its stock in the like amount. It also appears from the minutes that four separate contracts were successively entered into between Bartlett and the company for construction work and for the furnishing of mains, materials and various kinds of apparatus to be used in its gas business, all of which were to be paid for by bonds and stock of the company. Upon the completion of these contracts Bartlett became the owner of all of the capital stock of the company saving a few shares and of its bonds to the amount of about $550,000. It thus appears that all of the assets came from Bartlett, who became the virtual owner of the company.

"The illuminating company commenced to supply gas on September 2, 1891, the date

when its first street lamp was lighted. At that time and up to 1900 the company manufactured no gas, but purchased it at the rate of sixty-five cents per 1,000 cubic feet from other companies. In 1890 a 100,000-foot gas holder was erected on the Sixty-five Street plot, and in 1892 a 500,000-foot holder was built on the same plot. In 1895 the company acquired a large block of land where the present manufacturing plant is located, situated between Fifty-fourth and Fifty-fifth Streets, one side of which fronted on First Avenue and the opposite side on New York bay, for the consideration of $119,500, of which $35,500 was paid in cash and the balance of $84,000 by the execution of a purchase-money mortgage for that amount.

"On July 1, 1904, the plaintiff, through merger proceedings, succeeded to the ownership of the assets of the illuminating company and assumed all of its liabilities. Before and at the time of the merger, the stock of plaintiff's predecessor company was almost entirely in the hands or under the control of Messrs. C. K. J. Billings, Anthony N. Brady and Hugh J. Grant, who, after the merger, became the voting trustees of the plaintiff company. It is thus evident that in 1904 the interests which then controlled the illuminating company also controlled the plaintiff upon and subsequent to its incorporation. The method for accomplishing the merger, briefly stated, was that one Ward, a stockholder of the illuminating company, offered to sell all of its capital stock to the plaintiff company in consideration of the transfer of its entire capital stock, which was to be fixed at $2,000,000, and of an issue

of first mortgage bonds to be executed in the amount of $1,112,500. The offer was accepted.

"The effect of this formal transaction was an immediate increase of the capital stock to $2,000,000 and of its bonded indebtedness by the sum of $1,112,500.

"The plaintiff company opened its books as of July 1, 1904, with entries showing the issue of $2,000,000 of shares of stock in place of the $1,000,000 of shares of stock of the predecessor company and an increased bonded indebtedness of $1,112,500, making an aggregate corresponding increase of upwards of $2,112,500 in the amount of permanent investment of the new company over that appearing in the books of the illuminating company on June 30, 1904.

"There was not the slightest evidence adduced which would show any warrant for this increased capitalization and the increased bonded indebtedness. In fact the transaction was clearly an arbitrary new book value of the properties through the medium of a new corporation apparently organized for that express purpose."

As to its earnings from its inception to 1918 the Court said (pp. 216, 217):

"When plaintiff started in business practically its entire book capital was represented by its then outstanding bonded and real estate indebtedness. So much of its income which was thereafter periodically applied to the payment of interest on this indebtedness was in fact taken from its net earnings, the remaining portion thereof being applicable to the payment of dividends on stock, for which very little or nothing has been paid by the original stockholders.

"Bearing in mind the foregoing observations, it will be appropriate to tabulate the yearly net earnings as disclosed by the books of the company.

"The plaintiff's books show that the net earnings for the first six months of its existence ending December 31, 1904, were upwards of $20,000; on December 31, 1905, the net earnings for that year were $45,212.80 on December 31, 1906, $67,485.23; on December 31, 1907, $88,821.36, out of which dividends were declared to the extent of $40,000, being at the rate of two per cent. on $2,000,000 of capital stock.

"The net earnings for 1908 were $106,656.34, out of which dividends to the amount of $90,000 were paid, being four and one-half per cent. on $2,000,000. For 1909 the net earnings were $128,025.17, from which dividends were paid amounting to $120,000, being six per cent. on $2,000,000. The net earnings and dividends for the succeeding years were as follows:

Year	Net Earnings	Dividends
1910	$159,389.86	$120,000
1911	142,215.07	120,000
1912	167,934.42	120,000
1913	117,004.39	115,000
1914	131,975.86	125,000
1915	100,852.18	120,000
1916	45,233.87	20,000
1917	60,900.03	.....
1918	3,000.00	.....

From 1906 to 1914, the plaintiff company charged a rate fixed by statute of $1.00 per M cubic feet. By order of the Public Service Commission, in 1911, the rate was reduced to 85 cents per M cubic

feet. Certiorari was sued out by the company and the determination of the Commission fixing this rate was reversed by the Appellate Division. *People ex rel. Kings Co. Lighting Co.* v. *Willcox*, 156 App. Div., 603. This determination was modified but in its important aspects upheld by the Court of Appeals (210 N. Y., 479). Following this decision of the Court of Appeals in 1914 a rate of 95 cents per M was charged until 1916 when, by statute, the rate was fixed at 80 cents per M (Chap. 604, L. 1916). This statute was attacked as unconstitutional and the case was tried before Mr. Justice Greenbaum in the Supreme Court, New York County (Kings County Lighting Company, supra). In an exhaustive opinion Judge Greenbaum dismissed the bill of complaint, holding in effect that the company had not made out its case of confiscation, that the statute could not be declared null and void in default of any test of its operation and that the company, by continuously, deliberating and flagrantly violating the law fixing the standard of gas to be furnished at 22-candle power had deprived itself of the right to come into a court of equity and ask for relief. Judge Greenbaum showed that the candle power of the company went down in 1918 to an average by months ranging from 11.18 to 15.55, which is considerably less than 537 B. T. U. gas.

The fact that the said company has a long record of varying the quality of its gas is important on its present contention sustained by the Master that it cannot vary it upward without danger to its consumers.

Judge Greenbaum rendered his decision in January, 1920, and in June of that year an interlocutory injunction was granted by the United States District Court in the Southern District of New York in an action brought in that Court to

restrain public officials from enforcing the same statute. The statute was declared unconstitutional by the District Court, in *Kings County Lighting Co.* v. *Nixon,* 268 Fed., 143, and the decree was affirmed by the Supreme Court (258 U. S., 180). Thereafter the opinion of Judge Greenbaum came before the Appellate Division, First Department, and was reversed (202 App. Div., 473; 235 N. Y., 599).

From the entry of the final decree in the Federal suit on October 30, 1920 to October, 1922, the plaintiff company enjoyed a rate of $1.50 per M fixed by itself. In October, 1922, the Public Service Commission by order fixed a rate of $1.30 per M which was accepted by the plaintiff company, and which it has charged up to the present time, the statute here in controversy having been restrained by preliminary injunction in this case.

Immediately upon the entry of the final decree in the Federal suit on October 30, 1922, appellee fixed its own rate of $1.50 per M. Unlike the other two companies whose cases are here on appeal this company was not furnishing 22 candle power gas but gas of a much inferior quality, about 537 B. T. U., and consequently had a rate which was extremely high. It did not, moreover, reduce its rate in August, 1921, as did the Consolidated and Brooklyn Union Companies but maintained its $1.50 rate until it accepted a rate of $1.30 per M from the Public Service Commission in October, 1922. Here the rate still stands.

The higher rate fixed by the Public Service Commission for this company no doubt reflects its more unfavorable situation. Consolidated had annual sales in 1923 of 24 billion cubic feet, Brooklyn Union of 15 billion cubic feet while this company had only 1,800,000 cubic feet (Master's Opinion, p. 48). Its main mileage was 205 miles (Finding 8,

p. 61) as compared to Consolidated's 980 miles and the Brooklyn Union's 1017 miles. Consumption per mile of main therefore was only 8,780 M cubic feet as compared with Consolidated's 24,381 M cubic feet and Brooklyn Union's 14,581 M cubic feet.

The remarkable fact about this little company, however, is that it has been able, through efficiency of management and operation, to show much better results of manufacture and distribution than the other two mammoth companies.

The respective Master's figures for cost of making and selling gas by the three companies in 1923 are as follows:

MASTER'S FINDINGS FOR 1923

PRODUCTION COST	Consolid'd Gas Co. (Cons. Rec. p. 181) (Cents)	Brooklyn Union (B. U. Gas Co. Rec. (p. 151) (Cents)	Kings County Light'g Co. (Master's report p. 66) (Cents)
Per M made	47.97	49.03	45.13
Unaccounted for	2.32	5.57	4.60
Per M sold	50.29	54.60	49.73
Cost to distribute (Including taxes and retirement expenses)	39.49	35.33	36.34
Total cost of gas sold	89.78	89.93	86.07
Federal income tax	1.64	2.52	3.81
Total	91.42	92.45	89.88

In the briefs in the Consolidated and Brooklyn Union cases appellant has had occasion to point out the inefficiency of the plants of those companies as compared with that of appellee in the instant case. The comparative inefficiency will be the more striking when it is pointed out that in the instant case the Court below has by no means cut to the bone but that on the contrary, the book-

keeping methods of appellee are such that operating expenses in a case such as this should be cut several cents per M.

It is not a particularly grateful task to claim for the consumers the benefit of all of the results of the present efficiency of the appellee but it must be considered that its consumers long suffered from its inefficiency and law defiance. As pointed out by Judge Greenbaum in Kings County Lighting Co. v. Lewis (supra, p. 236), this company as recently as 1918 had an unaccounted for of 18 per cent. its use of coal was extravagant (Kings County Lighting Co. v. Lewis, supra, p. 240) and in numerous other particulars it was most inefficient. Moreover this company gave for many years a practical example of the severability between standard and rate. All of the statutes and orders prescribing rates and standards for the various companies in New York City prior to October 1, 1922 prescribed that gas should be of 22 candle power tested one mile from the works. Most of the companies attempted to live up to the standard even while attacking the rate and this company did so up to the end of 1917. After that year as Mr. Bogie, appellee's engineer expressed it, "We have taken the illuminating value of the gas produced, but we never operated actually for the illumnating standard" (p. 336).

Justice Greenbaum in Kings County Lighting Co. v. Lewis, 110 Misc., 204, states (p. 248):

> "The undisputed evidence of the average candle power per month furnishd by the plaintiff to its customers during the year 1918, was as follows:
>
> | | |
> |---|---|
> | January | 15.55 |
> | February | 14.11 |
> | March | 11.71 |

April	16.94
May	16.62
June	12.15
July	13.34
August	11.18
September	12.71
October	12.21
November	12.17
December	14.17

"During the entire year plaintiff continuously furnished gas of a candle power below the legal standard of twenty-two candles and varying from a maximum monthly average of sixteen and ninety-four hundredths candles to a minimum average of eleven and eighteen hundredths candles. There was not a single day during the year 1918 when the plaintiff furnished gas up to the standard prescribed by law. There were many occasions when the gas was found to be below ten candles. It was not denied that the plaintiff regularly received copies of the daily reports of the official inspections, and, moreover, the records of previous years show a substantial compliance with the requirements of law in respect to the candle power of the gas sold by plaintiff. In view of these facts and in the absence of any explanation of this seemingly flagrant violation of law, the conclusion seems to be inevitable that the plaintiff's violation of law was deliberate."

Judge Hough in Kings County Lighting Company v. Nixon, 268 Fed., supra, 143, said in 1920:

"This company has persistently and deliberately violated the candle power requirement."

He excused it on the ground that the company could not afford to do better. But for the two years while this company had a $1.50 rate fixed by itself it still violated the lawful standard.

In effect this company, regardless of whether its rate was $1.00, $1.50 or $1.30 per M gave gas of about 537 B. T. U. standard and waited for the public authorities to agree with it.

Such a recent history of inefficiency and law defiance warrants a drastic examination of operating figures and claims as to rate base.

POINT I.

The proper rate base for plaintiff company in a confiscatory case of this kind or the fair value of its property, used and useful in its gas business and upon which it is entitled to a return did not exceed the sum of $6,300,000 as of June 1, 1923 or $6,875,000 as of December 31, 1923.

The leading case of *Smyth* v. *Ames,* 169 U. S., 466, sets forth the relevant elements which should be taken into consideration in determining fair value. In that case the Court at page 546 said:

> "* * * And in order to ascertain that value (fair value) the original cost of construction, the amount expended in permanent improvements, and amount and market value of its bonds and stocks, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by the statute, and the sum required to meet operating expenses, are all matters for consideration, and are to

be given such weight as may be just and right in each case."

In the *Minnesota rate cases*, 230 U. S., 352, Mr. Justice Hughes, speaking for the Supreme Court said:

> "The ascertainment of that value (fair value) is not controlled by artificial rules. It is not a matter of formulas, *but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts.*"

Judge Hough writing in the *Consolidated Gas Company* v. *City of New York*, 157 Fed. Rep., at page 873, emphasizes the importance of investment value as follows:

> "*Return can be expected only from investment* and he that invests must part with something in the act of investing."

Ex-Justice Charles E. Hughes, writing as a referee in *Brooklyn Borough Gas Company* v. *Public Service Commission*, P. U. R., 1918, F, page 335, said:

> "While it is important to consider the cost of reproduction in determining the fair value of a plant for rate-making purposes, it cannot be said that there is a constitutional right to have the rates of a public service corporation based upon the estimated costs of the reproduction of its property at a particular time regardless of circumstances. To base rates upon a plant valuation simply representing a hypothetical cost of reproduction at a time of abnormally high prices, due to exceptional conditions would be manifestly unfair to the public and likewise to base rates upon an esti-

mated cost of reproduction far lower than the actual *bona fide* and prudent investment because of abnormally low prices would be unfair to the company."

The main criticism which the defendants wish to make of the Masters' report is his acceptance of reproduction cost as the fair value of the plaintiff's property. This may be seen by a comparison of his findings as to reproduction cost undepreciated and as to fair value. In his report (pp. 32, 33) he says:

"Summarizing the foregoing, it would appear that the value of the above property upon a *reproduction basis,* treated in the manner indicated for the purpose of being considered as part of a proper rate base, may be fairly set down as follows:

Buildings	$ 750,278
Mains	2,898,617
Services	1,109,686
Gas Apparatus	1,573,733
Engineering, Superintendence, General Contractor's expense and profit	317,536
Interest during construction	421,623
Taxes during construction	25,646
Administrative, legal and miscellaneous general expense during construction	127,014
Meters and installation of meters	816,870
	$8,041,003"

Turning to page 41, he states:

"Giving consideration to the various matters herein discussed, and to the authorities applicable thereto, a few of which I have cited,

I have come to the conclusion that the fair value of the plaintiff's property employed in the public service herein is as follows:

Land	$ 994,002
Plant, distribution system and other structural property	8,041,003
Restoring street paving over mains and services cut in laying same	97,696
Miscellaneous general equipment	102,541
Working Capital	600,000
Going Value	800,000
	$10,635,242
Cost of net additions to fixed capital June 1 to December 31, 1923	565,414
Fair value as of December 31, 1923	$11,200,656"

His total estimate of fair value of the physical property plus overheads is exactly the same as his estimate of reproduction value, namely $8,041,003. The same is true of every other item of physical property. Thus "Land," "Restoring Street Pavement" and "Miscellaneout General Equipment" are all taken at reproduction figures, to wit, the exact figures of reproduction value testified to by appellee's witnesses.

The Master has, therefore, considered nothing but reproduction new without depreciation.

The Master attempts to justify his estimate of the present reproduction cost and fair value of the company's property by a rough calculation applying the present index number of commodity prices. He says:

"There is much force in the plaintiff's contention that such reproduction costs represent actual costs through application of present day index number to costs incurred during the period preceding the high price level. That is, because of the depreciated value of the dollar, the structural reproduction cost represents what it actually did cost the company in the dollar of today to install such property. The aggregate reproduction cost before stated is $8,041,003. The actual or historical costs with present day index number 150 applied only to the cost of the property installed prior to December 31, are shown below.

"Cost to plaintiff's predecessor of property existing June 30, 1904, exclusive of land	$2,302,997.40
Net additions to fixed capital, June 30, 1904 to December 31, 1915	1,316,775.54
	$3,619,772.94
Applying index number 150.....	5,429,659.41
Net additions to fixed capital, December 31, 1915 to December 31, 1923.....	2,881,828.15
	$8,311,487.56

"While this method cannot be accepted as an infallible rule, nevertheless it is a check on the reasonableness of the estimated present day reproduction costs. The original cost as thus adjusted by the application of the index number is greater than the reproduction cost as heretofore modified and stated herein. The differ-

ence is in part accounted for by the fact that the cost of restoring pavement actually cut in the laying of the mains is included in the original cost figure, while there is no allowance for pavement in the reproduction figure of $8,041,003 found herein."

There are several manifest errors in this calculation of the Master. In the first place the original cost t oplaintiffs predecessor did not exceed $1,000,000 (Kings County Lighting Company v. Lewis, supra, p. 216), instead of $2,302,997. Also no account is taken of the retirement after 1915 of the property installed prior to that date. This company, unlike the other two companies whose cases are up has been almost entirely rebuilt since 1915. The actual original cost of the property still existing which existed in 1915 is probably nearer $1,000,000 than $3,619,772.94. And finally the Master has taken into account none of the recent fall in prices. If costs prior to 1915 should be increased, costs after 1915 should be decreased and particularly the investment in the years 1919-1921 when commodity prices soared to 248. The books show that of the book investment of $6,500,000, over $2,000,000 has been invested between January 1, 1918, and December 31, 1922, in a period of extrmely high prices (Defts. Ex. 45, Sheet 3 (p. 917).

This attempted justification of the high figure of reproduction cost is therefore worthy of no serious consideration.

As a matter of fact the real figures representing the various elements laid down in Smyth v. Ames, as necessary to be considered are as follows:

ORIGINAL COST OF CONSTRUCTION.

Cost of property installed up to July 1, 1904 (per Greenbaum, J., supra)	$1,000,000.00
Net additions July 1, 1904 to December 31, 1910 (Defts. Ex. 21, p. 892	646,079.29
Net additions December 31, 1910 to May 31, 1923 (Defts. Ex. 45, pp. 915-919)	2,980,244.27
Total	$4,626,323.56
With working capital it is roughly	$5,225,000.00
Adding additions from June 1, 1923 to December 31, 1923	565,414.00
Gives as of the latter date, say	$5,900,000.00

Actual "original cost of construction" plus working capital is not more than this figure but probably much less. There can be little question that fixed capital was not properly credited with the full cost of property withdrawn. Witness Little pointed out and criticized (p. 663) the fact that the original coal gas plant was withdrawn not at actual or estimated cost but as "old iron and brick" at $3,000.

There is also no deduction here for depreciation.

REPRODUCTION COST LESS DEPRECIATION.

The present reproduction cost less depreciation no where appears in the record. The Master has found a figure of $9,235,242 as reproduction cost and fair value without deduction for depreciation of all items other than working capital and going value (p. 65). With working capital it is $9,835,242 (Finding 22, p. 65).

AMOUNT AND MARKET VALUE OF SECURITIES.

The issued securities of the company on May 8,

1924, consist of $750,000 five per cent. first mortgage bonds, $2,389,000 five per cent. bonds, $1,822,000 six and one-half per cent. bonds, $500,000 eight per cent. preferred stock, $413,300 seven per cent. preferred stock and $2,000,000 common stock a total of $7,874,300 (Pltf.'s Ex. 82, p. 874). On January 1, 1923, however, it amounted to only $7,240,000 and on December 31, 1923 to $7,500,000 (Ex. 83, p. 875). The average of these is about $7,350,000 a fair figure for June 1, 1923.

It has been conclusively indicated above that at least $2,000,000 of this stock originally represented no investment whatever so that the estimate of original cost above of $5,225,000 corresponds very closely with actual investment measured by capital issues representing actual money or property.

The market value of two bond issues is shown on Defendant's Exhibit 50 (p. 940, fol. 1446) for the first four months of 1924 as follows: 5% bonds, 77½ @ 80½, yield 6½%; 6½% bonds, 95 @ 100¾, yield 6½%.

SUMMARY OF ELEMENTS AS OF JUNE 1, 1923.

Original cost about	$5,225,000
Cost of reproduction not more than...	9,835,242
Outstanding securities actual	7,350,000
Issued for cash on property not more than	6,000,000
Little's estimate on basis of 1910 appraisal (Ex. 45, p. 915)	6,300,000

As we have seen the Court below instead of considering these elements as required by law has actually disregarded all but reproduction new without deduction for depreciation. In this there is plain error.

The figures above given for cost and reproduction cost are remarkably close to those found in the case

of Georgia Railway and Power Co. v. R. R. Comm., 262 U. S., 625.

There the respective figures for cost and reproduction cost were approximately $5,250,000 and $9,500,000 respectively as against $5,225,000 and $10,635,000 here as of June 1, 1923.

> Georgia Railway and Power Company v. R. R. Comm., supra, page 629.

In that case the finding of the Commission was approved by this Court on the ground that $125,000 was added to original cost "to represent the appreciation of the value of the land owned." This was held (p. 630) a "specific application of the rule which declares the utility entitled to the benefit of increases in the value of property."

Here the addition of increased land value to original cost would be a more complete application of this rule. The land of appellee cost originally $139,000 (Finding 21, p. 64). It is now valued $994,002 (Finding 22, p. 65). This is an appreciation of over $850,000 or over 600 per cent.

If this sum were added to cost of $5,225,000 we would have a figure of approximately $6,100,000 which is in reality ample for this company, especially as no deduction is made for depreciation.

We are content, however, to rest upon witness Little's calculation contained in Exhibit 45 (p. 915) and appended to this brief.

Mr. Little explained the method used by him in arriving at his figures (pp. 636, 637). He started with the appraisal made by the Public Service Commission in 1910 and approved except as to the omission of going value by the Appellate Division and the Court of Appeals.

He then made a careful examination of the books from which he ascertained that the net additions since 1910 there recorded overstated, rather than

understated, the net investment since that time (p. 663). Mr. Little's final figures are $6,153,419 as of June 1, 1923, and $6,718,823 as of December 31, 1923. As we are not here contesting the figure of the Court below for working capital, it is necessary to add the difference between the Court's figure of $600,000 and Mr. Little's careful estimate of $446,051 (Ex. 47, p. 920). This gives us exactly $6,307,368 as of June 1, 1923, and $6,872,772 as of December 31, 1923, or, for convenience, the figures given at the beginning of this point of $6,300,000 and $6,875,000 respectively.

It is earnestly contended that in a case of this kind the rate base above indicated is amply sufficient. There has been such an excessive increase in the value of land since its purchase and there has been such a large proportion, over one-third, of the property built in a period of extremely high prices that it seems clear that the figures arrived at by Mr. Little are ample to represent the rate base of this company. This is particularly the case when it is considered that the reproduction cost figure found by the Master is excessive.

It is earnestly contended that these figures are ample for a rate base for this company. They are more liberal than the figure found by Judge Hough in Kings County Lighting Co. v. Nixon, supra, page 150. On consent of the company Judge Hough found a valuation of $3,300,000 which being increased by net additions since 1920 gives $5,800,000 as of June 1, 1923 and $6,400,000 as of December 31, 1923.

POINT II.

The reproduction cost figure found by the Court below is excessive.

The Court below says (p. 92):

> "He (the Master) pointed out that the *uncontradicted* evidence was to the effect that to organize a corporation, secure the necessary working capital and construct the plaintiff's plant and property as it existed on June 1, 1923, but exclusive of going concern value, it would have cost $13,694,361."

As a matter of fact, the Master took as fair value exactly the figures testified to as to all physical property though these were "contradicted" by searching cross examination. These amounted as we have seen to $8,041,003 of the total estimate.

It is not quite clear whether by his statement as to the "uncontradicted evidence as to reproduction" cost he intended to find the figure of $13,694,361, but it is at least arguable that he did.

As to the remaining items land, working capital, overheads and going value, none went uncontradicted in a strict sense. Not only was the witness Miller severely shaken on cross examination as to overheads and going value but as to land and working capital the defendants put in their own evidence which distinctly contradicted that of the plaintiff.

The plaintiffs' figure which he accepted for tangible property were far too high and the finding he made for land and working capital were also most generous, though no point is made of them in this brief.

As to the physical property, entirely aside from the fact that no deduction was made for depreciation—an error which will be later treated, the

figures given by plaintiffs, witnesses, particularly for mains, services, meters and buildings were excessive.

As to mains and services the same error was apparent which is found in the Consolidated and Brooklyn Union cases, namely, the witnesses based their figures on the cost of laying mains and services under the sub-surface conditions as they exist today and not as they existed when the mains and services were laid. We have referred to this in our brief in the Consolidated case and respectfully refer the Court to pages 161 to 163 thereof.

Mr. Duncan's estimate, further, while more modest than that of Mr. White in the Brooklyn Union case, and that of Mr. Simpson in the Consolidated case, still is subject to many of the same criticisms. The price for pipe was obtained in the same offhand way, without regard to whether the great volume of pipe would secure a reduction (p. 161). The witness planned to use no trenching machines (p. 177), or, so far as appears, no labor saving machinery whatever. Mr. Duncan further thought it would be no cheaper per unit to do the whole job at one time than to do it piece meal (pp. 177, 178).

As to meters the estimates are even more vulnerable.

Meters were estimated at the present cost of new meters as of June 1, 1923. The amount is $552,014.47. To this was added the sum of $264,855, the cost of installing these meters (p. 307) The latter amount itself is quite apparently excessive. It is nearly 50% of the estimated meter cost. In 1910 the Public Service Commission estimated that the the meters could be reproduced for $127,429, and that it would cost to install them only $24,539. Both amounts it depreciated (p. 872). The sum for installation then was less than 1/5 of the cost

of meters. It has now grown to nearly one half.

Moreover, there is no conclusive evidence that originally the company paid for meter installations or that if it did such payments were charged to fixed capital. What does appear is that since May 1st, 1921, all installation work has been charged to the consumers themselves. Accordingly, Miller applies his costs only to those installed on that day (p. 823).

Certainly the proof is not clear that the company ever did pay for installing 40,000 meters or would pay for them in the future if the plaintiffs' property were reproduced.

As to buildings and plant the excesses, aside from those which will be argued under the point on depreciation, are mainly found in the allowances of various percentages for subcontractor's profits. Although the appellee either does its own work or lets out one contract for a particular substantial job, yet in figuring cost of reconstruction we not only have one great contractor but Messrs. Burt and Miller figured an additional 10% for subcontractor's profit and on several items at least a sub-subcontractor's profit of 25% (p. 194). In view of the excessive "overheads" claimed and the excessive allowance for overheads the inclusion of subcontractors' profits and sub-sub-contractor's profits seems to be quite unjustified.

Whether by accident or design does not appear but as a matter of fact in the case of gas apparatus the Master's figure is actually higher than the figure given by Colonel Miller.

The Master says (p. 31):

> "He (Colonel Miller) testified that the reproduction cost new of machinery and equipment including gas holders in use, was $1,590,291."

As a matter of fact, Colonel Miller testified to a figure of only $1,514,563 (p. 801). The Master has included in his figure the sum of $75,728 which Miller testified was for "Omissions and Contingencies" (p. 806).

The Master therefore included in cost of the machinery and equipment $75,728.14 which should be added to his estimate of overheads.

The Master's figure for overheads is excessive.

The testimony as to structural overheads was put in by witness Miller and as in the other two cases he was a most liberal multiplier.

His stereotyped testimony which appears here (pp. 805-812) is practically the same as given in Ottinger v. Consolidated (pp. 2448-2454) and in Ottinger v. Brooklyn Union (pp. 1957-1964).

Approximately the same percentages are taken in every case. In the instant case the figures are as follows:

OMISSIONS AND CONTINGENCIES including "strikes, riots, etc.," a percentage on apparatus plant equipment, etc., exclusive of buildings and the distributing system of	$ 75,728
ORGANIZATION AND DEVELOPMENT EXPENSES PRIOR TO CONSTRUCTION including "expenses for obtaining franchises"	650,000
Cost of Financing including selling stock to ultimate investor	680,000
Engineering Superintendence and General Contractors Profit, aside, of course, from the sub-contractors and sub-sub-contractors profits	577,148
Interest during construction at 8%..	949,563

Taxes during construction	64,639
Administrative Legal and Miscellaneous General Expenses during construction	209,306
Total	$3,206,384

In other words Miller claims here as he does in the other cases that it would cost approximately 35% of the cost of the physical property to build that property.

Neither of the other Masters took Miller's figures at their face value. Whether this Master does is not clear. If he does it is plainly error.

The Master himself indicates that he does not follow Colonel Miller on these arbitrary additions for he says (p. 32):

> "When it is borne in mind that Mr. Burt on buildings, Mr. Duncan on distribution system and Colonel Miller on equipment included percentages for certain overheads, including contractor's profit, it has seemed to me that Colonel Miller's allowances for general overheads are unduly liberal and beyond what would be required. I have therefore used 5% in the place of his 13%—2 per cent. instead of his 2½% administrative, legal and miscellaneous general expenses during construction, 6 per cent. instead of 8% for interest during construction and taxes in the amount testified to by Colonel Miller."

These amounts so allowed are extremely generous, amounting in all to $967,547 including the $75,728 for omissions and contingencies included without specific mention in the item of gas apparatus (p. 33).

In the Consolidated case the Master has found about $4,000,000 on a property which he considers worth $134,000,000 or 13 times the Master's value of this property on June 1, 1923. The Master's percentage is on a comparative basis three times that allowed in the Consolidated case.

The Master in the Consolidated case saw the force of including only the actual expenditures for these items.

That this course should have been followed here is earnestly contended and we respectfully refer the Court to our argument on this point in the Brooklyn Union brief (pp. 63-69).

POINT III.

An adequate deduction for depreciation should have been made in this case. The failure of appellee to prove actual depreciation leaves its case incomplete. The case should be sent back for further proof and in default of this the sum of $201,910.62 in its reserve should have been deducted as a measure of the depreciation in appellee's property.

The situation of appellee is similar to that of the other two companies in respect to the subject of depreciation. The only difference is that in the case of appellee the accumulation of the account was a trifle different than in the case of the other companies. Appellee actually maintained the account "Accrued Amortization of Capital" as required by the Public Service Commission until January 1, 1917, when of the balance the sum of $147,000 was transferred to an account "Provision for plant withdrawn from service" (p. 249). This account had increased to $201,910.62 as of December 31, 1923.

The testimony was in all respects similar to that in the other cases, Burt and Miller appearing here as there. Miller testified that the sum of $16,557.92 was all that was required to put the plants in a condition equal to new (Pltf.'s Ex. 40, pp. 824, 825. Finding 10, p. 62). Burt testified that the buildings could be put in that condition for $1,855.50 (Pltf.'s Ex. 35, p. 792, Finding 10, p. 62).

The Master deducts these insignificant sums amounting to about less than 1/5 of one per cent. of the value found of $8,000,000 and the Court apparently approves this method saying (p. 91):

> "To this conclusion exception is taken. The argument is that it is wrong to say that by so slight a repair, the property would have a value as if new. The plaintiff offered proof as to these values; the defendants did not. The Master has not accepted the full value as the proof of the plaintiff indicates, but has said:
>
> > 'I have endeavored to ascertain, and the figures found by me attempt to reflect, what it would have cost the plaintiff to build and develop its plant and property as it was built and developed had the same level of prices for materials and labor prevailed throughout the whole period of its construction as prevailed in June, 1923; in other words, to measure and state the investment in the property in the dollar of the present.'
>
> "And he pointed out that the uncontradicted evidence was to the effect that to organize a corporation, secure the necessary working capital and construct the plaintiff's plant and property as it existed on June 1, 1923, but excluding going concern value, it would have cost $13,694,371. As to the argument on depreciа-

tion, answering the argument of the defendants as to failure of the Master to consider the depreciation in value, it will be observed that the plaintiff called a witness who testified quite fully on the subject of actual depreciation. He testified as to the condition of the property and plant stating that it was in as good condition as a new plant and that with this small expenditure referred to, the property would be in as good a condition as if new, and as an operating plant, he stated, it would be better than new. There is testimony as to the observed depreciation and the defendant's witness made no deduction for accrued depreciation. While he said he had not time to examine every item of the property as would be necessary for him to make an estimate of actual depreciation, it does appear that he had been through the plant and he said there was new property and that every repair reasonably required had been made. He said that the gas works, holders and shop buildings were well preserved and very well maintained. Other than this, we find that the defendants offered no evidence of depreciation. It is conceded that the plaintiff conducted its business with unusual skill and care. Under this condition of the proof, we agreed with the Master that in fixing the amount of fair value, as he did, sufficient has been allowed for depreciation (Denver v. Denver Water Co., 246 U. S., 178; Des Moines Gas Co. v. Des Moines, 238 U. S., 153)."

On the authority of Minnesota Rate Cases, 230 U. S. 352 and on the reasoning elaborated in our brief in the Consolidated case (pp. 56-70) we earnestly contend that the Court is in error here. The treatment of depreciation was not proper.

Nor is the Court correct in its statement that the Master since he did not allow the sum of $13,694,371, the "uncontradicted evidence" of the cost of reconstructing appellee's plant and "in fixing the amount of fair value, as he did, sufficient has been allowed for depreciation."

As a matter of fact the Master expressly controverts this theory saying:

> "In finding the reproduction value of the plaintiff's property, I have deducted the amount which was testified as representing the expenditures necessary to place or restore the physical property of the plaintiff in a condition as good as new. The plaintiff's witnesses testified that there was no depreciation beyond these amounts. No testimony was presented in behalf of the defendants conflicting with the testimony of the plaintiff's witnesses on the question as to the condition of the plaintiff's property and of any actual depreciation existing therein. There is no substantial evidence in the record to the contrary of that testified to by the plaintiff's witnesses.
>
> "*Ohio Utilities Company* v. *Public Utilities Commission of Ohio* (decided by United States Supreme Court, March 2, 1925, not yet reported), is significant on the question of the weight to be accorded the testimony of experts where there is no contradictory evidence."

Reference to the Master's findings bears out this statement that except for the negligible amounts "to make new" no deduction was made for depreciation.

As a matter of fact the Master followed the very exaggerated testimony of appellee's witnesses most minutely as shown by the following comparison:

		Evidence		Finding	
Buildings	$ 752,134.00		(p. 774)	$ 752,134.00	(Finding 9, p. 61)
To make new .	1,855.50		(p. 794)	1,855.00	(Finding 10, p. 62)
		$ 750,278.50		$ 750,278.00	(p. 33)
Gas Mains		2,898,617.00	(p. 795 [a])	2,898,617.00	(Finding 9, p. 61)
Services		1,109,686.00	(p. 795 [a])	1,109,686.00	(Finding 9, p. 61)
Gas. Apps. ...	$1,514,563.00		(p. 801)	590,291.00	(Finding 9, p. 61)
To make new .	16,557.02		(p. 825)	16,557.92	(Finding 10, p. 62)
		$1,498,005.98		$1,573,733.00	(p. 33)
Meters		816,870.00	(p. 801)	816,870.00	(Finding 9, p. 61)
Miscellaneous General Equipment		102,541.00	(p. 801)	102,541.00	(Finding 22, p. 65)
Paving over mains		97,696.65	(p. 881)	97,696.00	(Finding 22, p. 65)
Total		$7,273,694.27		$7,349,420.00	

[a] Exclude paving items.

These are the only items to which depreciation might apply and as appears the Master actually found a value higher by about $75,000 than the so-called "uncontradicted evidence." The $75,000 is accounted for by the inclusion of this amount, Miller's estimate for omissions and contingencies in the figure for gas apparatus. This was his finding not only of the "cost of reproducing the items (p. 51) but of his fair value" (p. 65).

These are also the only items entering into the Court's figure of $13,694,371 as to which the testimony of appellee's witnesses was not actually met by other testimony. It was, however, "contradicted" by cross examination as we have seen and, as a measure of "fair value" by the figures of original cost, capitalization and other items held by this Court to be matters of consideration in a case of this kind. As to these items their testimony was badly shaken on cross examination as will appear later.

The remainder of the sum of $13,000,000 or $15,000,000 with going value which the Court erroneously states was the "uncontradicted evidence" were as follows:

	Appellees Testimony	Finding
Overheads	$3,206,384 (p. 801)	$891,819 (Finding 9, p. 62)
Working Capital	885,227 (p. 801)	600,000 (Finding 22, p. 62)
Land	994,002 (p. 801)	994,002 (p. 34)
Going Value	1,775,095 (p. 339)	800,000 (Finding 22, p. 65)

Land it will be seen he took at exactly the figure testified to though the much lower tax valuations were put in evidence. Overheads he reduced, not as a measure of depreciation but because, as he said, he thought Miller "unduly liberal" (p. 32). Working capital he reduced not as a measure of depreciation but in view of the careful prepared estimate by appellant's witness Little that the company needed

only $446,051.00 (Ex. 47, p. 921). Thus was this item "contradicted" and the Master should have followed the witness.

As to going value there is certainly no element of depreciation in reducing Miller's estimate by one-half. Special Master Latson disregarded Miller entirely in the Brooklyn Union case and made no separate allowance for going value. Special Master Graham practically disregarded his testimony and made an estimate of only $8,000,000, practically one-third of Miller's estimate.

That there could be recognition of depreciation in reducing the purely speculative items of overheads and going value is is conceivable. That there was not is plainly apparent from the Master's opinion and report.

Nor was there any testimony as to "observed depreciation," actual accrued or otherwise. What the witnesses did was to give cost to make new, denying depreciation.

Burt said:

> "The fact that the buildings may have been old or may be out of date. I entirely disregarded" (p. 148).

He also said he "was not asked to determine whether the buildings were inadequate, unsuitable or out of date" (p. 149).

Miller testified that (p. 311):

> "In Exhibit No. 40 (this exhibit shows the amounts necessary to put the property 'in a condition good as new'). *I did not include any amount for obsolescence or inadequacy.*" (Italics ours.)

Miller again testified and reiterated that he believed "a unit of plant should be given its full re-

production value up to the minute it is retired" (p. 312).

Miller made no "deduction for wear and tear to automobiles" nor did he "ask when they were purchased" (p. 312).

He made no deduction for inadequacy though he states:

> "It sometimes happens that a piece of equipment becomes inadequate and it is cheaper to take that equipment out and replace it by a larger piece of equipment in the same building than it would be to put up an additional building and put another unit alongside, and it is in such cases as that, that equipment is abandoned on account of inadequacy, but in no case of inadequacy would it be impossible, as far as I know, to add additional equipment and keep the old equipment operating. It frequently happens, however, that it is more economical, as in the Flushing case, if you will remember where it was cheaper to take out a boiler which was inadequate and replace it by two new boilers, than it was to put up a building and put an additional boiler in the new building. It was cheaper to do it that way, to abandon the old boiler, although that boiler was in every respect as good as new" (p. 319).

As in the other cases the testimony and the claim of appellee is not that observed depreciation only should be deducted but that there is no depreciation.

The Master (pp. 42-44) treats quite fully the appellant's contention that the "Plant Withdrawn from Service" should be deducted as the company's own estimate of depreciation in the sum of $201,910.

As to this question we refer to our brief in Ottinger v. Consolidated (pp. 56-57) and partic-

ularly to Re New York Telephone Co., P. S. C., N. Y., Louisianna Comm. v. Cumberland Company, 212 N., 414, and Brooklyn Borough Gas Co., P. U. R., 1918-F., 335.

POINT IV.

There should have been no separate allowance for going value in this case.

The testimony as to going value here was solely that of Mr. Miller.

It was based, as usual on multiplying the number of meters by $35.00 which gave the resultant figure of $1,750,000 (p. 334).

Alone of the Masters whose determinations are now under review, the Master in this case placed credence in Miller's testimony saying (p. 37):

> "In the assumption of a reproduction of an existing and going concern it is presumed that the community exists with all facilities except the one in question and that within a fixed period of time the entire property is created. If it be a gas property it cannot necessarily be assumed that the residents are anxious and ready to take the service, for they presumably have in service other means of providing the service otherwise to be rendered by gas. They must be persuaded to have their homes piped, to discard coal stoves and furnaces as means of providing heat, all matters of expense to them for which they must be shown that there are superior advantages."

Yet Miller's testimony was identically the same as that at which Special Master Latson's "imagination faltered."

The Court below merely approved the allowance without any discussion of the evidence underlying it.

Nothing need be added in this connection to what has been said in the other briefs, wherein the determinations of the Supreme Court on this question are fully set forth. There was no competent evidence on which an allowance could properly be made. See our briefs in the Consolidated case (pp. 87-109) and in the Brooklyn Union Case (pp. 97-100).

Here as in those cases there has been an ample allowance for overheads. Here also the company has had a long record of success. It has paid for building up its business out of profits which in the early years enabled it to pay handsome dividends on $2,000,000 of stock which represented no actual property.

POINT V.

The Court below should have found that the probable operating and distribution expenses for the year 1924 would not have exceeded in total the sum of 76.15 cents per cubic feet of gas sold and would have left available for return after payment of income taxes $444,940.00, which is far above a fair return on a reasonable rate base. Even conceding the figure for return of the Court below, of 19.23 (Finding 31, pp. 69, 70) cents per M sold or $374,439.38 there is no justification for a finding of confiscation.

In the Court below appellant urged strongly that the operating figures for 1924 worked out with great care by the witness Little should have been taken by the Master and the Court as the basis of

findings as to production and distribution costs for the year 1924. As has been pointed out in the other briefs so in this case the only proper criterion is the cost of making gas in the year 1924.

Reasonable Production Expenses for 1924.

The Master has found the production expenses for 1923 per M sold to be 49.73 cents per M sold (Finding 24, p. 66). He has indicated (p. 38) that 1.58 cents should be subtracted because of the lower price of gas oil in 1924. This gives a figure of 48.15, as the Master's cost per M for gas sold for the year 1924. Mr. Little, in his very carefully prepared estimate of expenses for 1924, arrives at a figure of 45.22 cents per M cubic feet sold (line 30, §5, Deft.'s Exhibit 48, p. 939). The difference of 2.93 cents per M cubic feet sold is readily and adequately accounted for by Mr. Little in his tabulation and in his testimony. A comparison of the figures in the 3rd and 5th columns on pages 938-940, Exhibit 48, will show that certain of the items have been slightly increased in the figures given for the estimate for 1924, as compared with the book figures for 1923. For instance the cost of boiler tar has been increased .4 cents per M. Gas storage has been slightly increased and other small increases have been made where the circumstances warrant it. The chief reductions made by Mr. Little are the following:

Production repairs (Line 27)..... .55 cents
Residuals ..... 2.17 cents

The repair item is arrived at by averaging the cost per M cubic feet for the years 1921-1923 and applying the result to estimated sales for 1924. This method was approved by the Supreme Court in *Galveston Elec. Co.* v. *Galveston*, 258 U. S., 388, 398.

See also

Re: *Pacific Gas & Elec. Co.*, P. U. R., 1923-C., 385;

Kootenai Power Co., P. U. R., 1923-C., 159.

This method, moreover, is eminently fair to this company particularly. The record shows that a large proportion of plaintiff's plant is new and will need little repairs in the next few years. Moreover the table above referred to shows that the production repairs for 1923 were unduly high, $69,933 for 1923 as against $40,080 for 1922. It would be obviously unfair to take the excessive figure for 1923 as the basis of the estimate for 1924.

Improper Treatment of Residual Credit.

In the production of water gas there is left as a residual tar which collects in holders, mains and other places. This tar is used as boiler fuel. In every company except this one the cost of production is credited and the boiler fuel account charged at the same price. Obviously this is the correct method.

In the case of this company, however, water gas tar during 1923 was charged at 6.294 cents per gallon and credited at the lower figure of 4.995 cents per gallon.

The charge for this water gas tar was made on the basis of the cost in a prior year of the gas oil of which the tar was a residual. Obviously, this is an improper method of charging for tar, because tar is not gas oil, but a residual of gas oil. The Master answers this contention by saying, "In the long run it does not make any difference" (p. 46) and this is true but the unfortunate part of it is that this statute and its effect are not measured on a "long run" but on a very short one. And in a short run it makes a difference of $1,378.72.

Furthermore, the tar credit of the plaintiff company was only 6% of the gas oil used, and the unanimous testimony was that the normal recovery was 15% or 18%. Witness Wing, called for plaintiff, an experienced and straightforward witness said as to the supposed recovery in 1923 (p. 368):

> "They have in this exhibit so very small recovery of tar—all outside of my experience any way. * * * Five per cent. is exceptionally low. * * * I don't know any reason why they should not make as much tar as anybody else, and that would be more than three times the figure that is given for the last year's result. * * * It would be 16 or 18 per cent. on the amount of oil in volume. That is the usual figure for production of water gas tar. * * * These figures are so extraordinary I would say anyway you would obtain what other manufacturers do—15 or 18 per cent of tar."

See also Little (pp. 653, 654, 679, 680). At page 679 he gave two instances of companies making the same quality of gas appellee makes who get 16 per cent. tar recovery.

This very company recorded 10.50 per cent. in 1922 as against 4.85% the first five months of 1923 (p. 242). The Master answers this by saying that this merely proves the efficiency of the company (p. 46). This would be a forcible answer if it would be believed that this company in the same territory and with the same machines as the other companies in the Metropolitan District, is nearly three times as efficient in making its gas as any other company in the district or if there were any evidence that a low tar recovery is any sign of efficiency. He points to none however. A more plausible explanation seems to lie in the probability that the com-

pany did not take accurate measurements of its tar recovered and did not credit itself with the proper amount. The company's own witness Gonnand admitted, "It is not determinable how much we recover one year or another" (p. 244). Or perhaps there is a leakage somewhere. If the normal amount of tar had been recovered there would have been a saving of $25,268.30.

These two amounts, totaling $29,647.02 add 1.42 cents per M cubic feet to the return.

The same improper method accounts for the saving in screenings under the boilers. If the proper amount of tar had been recovered and used under the boilers less screenings would have to be burned. As the tar is cheaper the net saving indicated in Exhibit 48, lines 6 and 7, page 938 is .75 cents (see Little, p. 683). Adding this to the saving in residuals above mentioned of 1.42 cents gives the total of 2.17 cents above stated.

Mr. Little's figures for operating costs explained fully at pages 644-658, it is earnestly contended, are entirely adequate and liberal to the company. No figure higher than 45.22 cents per M cubic feet sold should be taken for these costs. Mr. Little was unshaken on cross examination and his figures stand unassailed.

Distribution Expenses.

As to these expenses the Master's error is almost too plain for argument.

This company operates in a rapidly growing territory; its sales of gas are constantly increasing. The average annual increase in consumers for the past ten years has been 11.72 per cent. per year, and in gas sold has been on an average of 14.6% (Defendants Exhibit 48, p. 936). The sales for 1923 were 1,794,969 M cubic feet, while in 1924 it is conceded on the record that the sales amounted

to 1,947,208 M cubic feet an increase of a little over 8% (Finding 26, p. 66).

It is obvious that increased rates must decrease the unit cost of some items of distribution but the Master says:

> "Such increase in sales (1924 over 1923) does not reduce the unit (1,000 cubic feet) cost of * * * distributing gas."

Certainly this is not generally the case.

It is a recognized principle of business practice that overheads do decrease per unit as the units increase and it is particularly applicable to general office expenses, to repairs to mains, to taxes and repairs to buildings. It is also applicable, though to a lesser decree perhaps, to about every other account under the general head of distribution expenses.

Mr. Little was extremely careful and eminently fair to the company in his estimates of these expenses for 1924. His testimony was uncontradicted. Like the Brooklyn Union this company apparently was unwilling to give an estimate of 1924 expenses though hearings did not close until June 4, 1924.

A brief review of Mr. Little's estimates of expenditures in the various accounts shows his fairness (see Exs. 48, pp. 938-941, Test, pp. 657-669).

ITEM 31—PUMPING (p. 938).

Mr. Little used the same costs per thousand as in 1923, which were higher than in the previous year.

ITEM 32—SUPERINTENDENCE.

This does not go up in proportion to the amount of gas distributed. Mr. Little's suggested allowances in dollars is higher than in any of the previous years.

ITEM 33—SUPPLIES AND EXPENSES.

This account fluctuates from year to year. Mr. Little used an average of three years, expressed in cost per M cubic feet, thus reaching an amount about $800 more than was expended in 1923.

ITEM 34—METER AND INSTALLATION WORK.

Mr. Little increased this amount about $2,400 over 1923. This is a fluctuating account and Exhibit 48 shows that 1923 was the highest year. Mr. Little, however, suggested an even higher amount, basing it upon an average cost per thousand cubic feet for the three years.

ITEM 35—WORK ON CONSUMERS' PREMISES.

Mr. Little suggested an amount slightly higher than was spent in 1923, although that year was much higher than the previous years.

An examination of the account shows that in 1923, because of complaints as to no gas being available or poor gas being delivered, there was expended for that class of complaint alone $5,808.84, as compared with $2,708 in 1922. Failure of the gas supply or complaints as to quality rest with the company and any excessive amount should not be charged against the consumers. If we take from the 1922 costs the abnormal expense shown above or $3100, the annual charge for 1923 would be $19,729. We believe the expense in 1924 should not be much higher than $20,000. Mr. Little, however, suggests an allowance of $22,973, which is higher than the costs for 1923, which year was abnormal, and very much higher than 1922 or 1921. What Mr. Little did was evidently this: he took out the abnormal expense of 1923, arrived at a cost per thousand feet of gas made, based on the amended figure, and applied this amended figure to

the quantity of gas he estimates will be sold in the year 1924.

ITEMS 36 TO 40—REPAIRS.

All these accounts fluctuate. Mr. Little therefore took the average cost per thousand for the past three years. The Court will note that he has been consistent in this, notwithstanding that in the item of repairs to meters the amount of his estimate is over $6,500 more than the costs shown for 1923. One would naturally suppose, also that repairs to mains would not increase directly with sales.

ITEM 45—COMMERCIAL OFFICE EXPENSES (p. 940).

He increased the amount over $18,000, as compared with the 1923 book costs. He did this by taking the same cost per thousand for the estimate as was shown by the books for the year 1923.

The 1923 costs were considerably over the 1922 expense, this being due to the enormous increase in the amount of gas sold. An analysis of the account shows on the books that the general labor in the commercial office increased in 1923 by over $3,000, but the expense per thousand was reduced. In the accounting division of the commercial department the expense increased some $7,000 in 1923. Even the cost per thousand feet increased as compared with 1922. This shows, as Mr. Little explained, that at different times in the history of a gas company you will find the commercial accounting department saturated with business and in the following year there will be an extra number of accountants or clerks put on which will make the cost somewhat too large for the work to be done. In two or three years the work catches up with the force and finally the same process is gone through—the putting on of more clerks. Consider-

ing, therefore, that costs of the accounting force increased over $7,000 in 1923, there is no reason to anticipate any increase in 1924 (p. 659).

The cost of the contracting department of the commercial office was slightly increased in 1923, but the cost per thousand feet went down. The same is true of the collecting department of the commercial office and also of the meter reading department and of the supplies and expense item of the commercial department.

It should be remembered also that in 1923 there was a rate case going on, calling for a mass of statistical data, special exhibits, voluminous tables, investigation of accounts, etc., and this may, in part, explain the very considerable increase in the accounting expense in that department.

It will be observed, however, that Mr. Little figured that the costs would go up in direct proportion to the amount of the increase he anticipated in the gas sales.

Item 46—Promotion Office.

Mr. Little increased this item by over $5,500 compared with 1923.

The promotion management expense in 1923 was above that of 1922, although the cost per thousand feet was lower in 1923. The same is true of the demonstration department of the promotion office. In supplies and expense, however, the books show quite an increase in the amount, as well as cost per thousand feet in 1923 over 1922. There is also to be noted an increase in the amount for the architectural office, although the cost per M was the same in 1923 as in 1922. Another branch of this promotion office deals with special investigations and this expense was nearly double in 1923 over 1922. The cost per thousand also increased. Then we have another branch in this promotion office

which deals with the question of house heating. Investigation of the last named branch shows that the expense in January, February, March and April, 1923, was approximately $300 per month. In December, 1922, it was $183.87. Before December, 1922, and subsequent to April, 1923, no charge appears in the books for this department. The company was evidently experimenting on some new scheme, trying to introduce a new method of house heating.

The company was no doubt making a sincere effort to secure new business by this house heating department and under such circumstances there should be no real criticism of the expense. The experiment is concluded and there is therefore no reason for figuring similar costs in 1924.

So far as the special investigations are concerned, this might be questioned as being due to present litigation.

Mr. Little had all these facts before him when he arrived at the costs of the promotion office, but here again he demonstrated his fairness to the company by assuming that there would be an increase of nearly $5,500 per annum.

Item 47—Advertising.

The 1923 expense was very high, comparing the expense for 1923 with that for 1922 or even with that of 1921. 1923 cost was considerably more than double the costs of 1922. An average of the two years 1923 and 1922 would show $7,484. This Mr. Little rounded out to $8,000 per annum, although it may be claimed that the cost of advertising need not be great in a territory which is developing marvelously and where the people are clamoring for gas service instead of being petitioned by the plaintiff to install gas-consuming appliances, as was

shown by Mr. Little's testimony. However, the witness left an ample amount for advertising and there is little question that out of the amount allowed all necessary advertising can be taken care of. The amount allowed is considerably more than was spent in either 1921 or 1922.

Item 50—General Officers' Salaries and Expenses.

It is shown by the sheets that these were lower in 1923 than in 1922. The witness for the Attorney-General, however, increased the amount, as shown, to $34,000 per annum. This expense does not go up in direct proportion to the increase in gas sales and there is no reason appearing in the record why there should be any increase in 1924 over 1923. To be fair to the consumers, a very considerable part of this expense should be capitalized, because the general officers of the company plan all new construction work. So far as the record shows, only Mr. Bogie's time is partly charged to fixed capital.

Item 51—General Office Clerks.

Mr. Little raised the amount in his estimate over the expenditures for 1923 by nearly $6,000. 1922 was greater than 1921 by also $2,351; 1923 was greater than 1922 by nearly $4,742. Not withstanding this, Mr. Little increased his amount for the following year by $5,900. He assumed, evidently, that the expense would be increased in direct proportion to the increase in the sales of gas, although there is no reason to anticipate such a result. Here again, however, he showed his desire to be absolutely fair to the plaintiff. He was so fair that he leaned backwards perhaps.

ITEM 52—GENERAL LAW EXPENSE.

It is obvious that one cannot take an average over a period of years. In 1921 this cost was $77,965. In 1922 it was $41,143. In 1923 it was $16,618.

These general law expenses cover more than legal expenses chargeable to operations. Take for instance the year 1922. There was $20,000 spent for extraordinary court and law expense and this covered increase of capitalization of capital stock, increase of directors, application to issue two million 8% preferred stock, issuance of first refunding mortgage bonds, authentication of refunding mortgage bonds, sale of 6½% bonds to a brokerage house. These are legal expenses during construction and organization, chargeable to intangible fixed capital account.

In 1922 the salaries and expenses of attorneys, outside the above special bill, amounted to $20,279.08. The monthly charge was apparently $1,250, but in December, 1922 it was $6,250, owing to a bonus in that month of $5,000 over and above the regular $1250.

In 1923 there was nothing charged directly to this account for extraordinary expense or cost of Court proceedings. If we assume the retainer to be approximately the same as in 1923—that is, $1250 per month, making $15,000 per annum—and we add $2,000 for miscellaneous expense incurred by the attorneys on regular work, this would bring up the amount to the $17,000 suggested by Mr. Little, which is slightly more than the expenditure for 1923.

ITEM 53—MISCELLANEOUS GENERAL EXPENSES.

Mr. Little's figure is slightly higher than in 1923. This expense fluctuates, there being a very big in-

crease in 1922 over 1921—$7535, to be precise. In 1923 the increase was $3573 over that of 1922. The increase suggested by Mr. Little over 1923 is $4,572. An examination of this account shows that the principal increase was due to auditing, this being raised from $3,000 to $5,000 per annum. It is not unreasonable to suppose that the increased auditing expense was occasioned by the litigation, which would not be considered in a rate case because fair rates should not be made unfair by the cost of contesting them.

ITEM 54—INSURANCE.

Mr. Little assumed the same rate per thousand as was shown on the books for 1923, which was higher than 1922. An average for the three years would be .009667¢ per thousand, whereas Mr. Little used .0098¢.

ITEM 55—ACCIDENTS AND DAMAGES.

This is a small fluctuating expense. It is evident that Mr. Little used an average for the three years expressed in cost per thousand feet.

ITEM 56—STATIONERY AND PRINTING.

Mr. Little's figure is higher than that of any previous year. Note the very great increase in expense in 1923 over 1922. This account fluctuates considerably, because books and other supplies are not bought at regular intervals. The average cost for the three years for M cubic feet would be .0081667¢. Mr. Little used .0082¢ per M.

ITEM 57—RENEWALS AND REPLACEMENTS.

Mr. Little's testimony shows that from 1917 to 1923 the property retired and written off the books amounted to $74,016.57. During that period there

were sold 9,850,717 M cubic feet of gas, so the average requirement over this period of seven years was .00751382 per thousand feet of gas sold. This decimal Mr. Little called .008.

The record shows that the balance in this reserve has been growing since 1916, when the old account was split up into "contingencies" and "renewals and replacement reserve." The reserve grew in 1917, 1918 and 1919, notwithstanding that at that time the company was setting aside, at the rate of 1 cent per thousand cubic feet of gas sold. Despite this increase in the reserve under said conditions, the company arbitrarily raised the rate to three cents per thousand cubic feet in 1920.

The balance transferred to this account in 1917 was $59,746.70. Up to December, 1923, the reserve increased to $201,910.62. It was brought out on cross examination that there were certain other charges for plant withdrawn from service charged against surplus account. Mr. Little investigated this matter and showed that from 1917 to 1923 the total so charged was $11,068.07, which was at the rate of .00112358 per M feet. If the Court believes it to be necessary to add this amount to the sum shown for retirements charged against the renewals and replacement account, it would make the annual requirement .0086374 per thousand feet of gas sold, as compared with Mr. Little's suggested allowance of .008.

Appellee is inconsistent when its counsel asserts and its witnesses testify that, on the one hand, there is no such thing as depreciation when considering rate base or the capital account; but on the other hand, when you figure the operating expenses you must allow something over and above the actual requirements for renewals and replacements to take care of theoretically accruing depreciation.

ITEM 69—CREDIT.

As we have already stated ,there can be no question but that inasmuch as the cost of doing the jobbing business is included in the gas operating expense, the miscellaneous revenues should be either added to the $1 rate or be deducted from the gross operating expense, as has been done in every other recent gas case in this district.

This witness' estimate has not been successfully challenged. While the sales did not increase as greatly as Mr. Little anticipated, there remains in the expenses the added amounts due to Mr. Little's estimate of increased sales. Appellee based its contention on the lack of increase in sales on too limited a period. Mr. Little has taken into account the experience of the company in the last eleven years.

It is not to be forgotten that the witness based his estimate largely on the average costs as shown by the books for 1921, 1922 and 1923, when prices were at the peak. Since the testimony was given prices have fallen. Mr. Little made no prophecy as to falling prices, but merely applied to his estimate the known reduction in the cost of gas oil.

UNCOLLECTIBLE BILLS.

The appellee has charged to operating expense for the year 1923 the sum of $9,409.11 as the amount to be charged for its failure to collect money due for gas service from its consumers. There has been no excuse offered by appellee to show why the amount of uncollectible bills should be so large and scarcely any excuse why there should be any charge to operating expense under this item, in any event. The reason for this is that under Section 53 of the Transportation Law of this State it provides:

"Every gas light and electric light corporation may require every person to whom such corporation shall supply gas or electric light for lighting any building, room or premises, to deposit with such corporation a reasonable sum of money according to the number and size of lights used or required, or proposed to be used, for two calendar months, by such person; and the quantity of gas and electric light necessary to supply same, as security for the payment of the gas and electric rent or compensation for gas consumed or rent of pipes or wires or fixtures, become due to the corporation."

The deposit, according to the law of this State, is not provided for as prepayment of rent and the company is entitled to require that such deposit shall be kept intact and if not kept intact the company may cut off the supply at once. The company is not prohibited from cutting off the supply until the amount of the deposit has been used up by charges (see *Hewsey* v. *Queensborough Gas & Electric Co.*, 47 Miscellaneous, 375).

Under Section 64 of the Transportation Corporation Law, it is provided:

"Any officer or other agent of any gaslight or electric light corporation * * * may at all reasonable times, upon exhibiting a written authority * * * enter any dwelling, store, building, room or place, lighted with gas or electric light supplied by such corporation, for the purpose of inspecting and examining the meters, pipes, fittings, wires and works for supplying or regulating the supply of gas or electric light and of ascertaining the quantity of gas or electric light consumed or supplied; and if any person shall, at any time, directly or in-

directly, prevent or hinder any such officer or agent from so entering any such premises or from making any such inspection or examination at any reasonable time, shall, for every such offense, forfeit to the corporation twenty-five dollars."

Section 65 of the Transportation Corporation Law provides that if any person supplied with gas or electric light shall neglect or refuse to pay his gas bill or neglect or refuse to pay a deposit, the corporation may refuse to sell gas or electric light to such person; and the agents or workmen or officers of the corporation may enter upon the premises of such person in default between 8 o'clock in the morning and 6 o'clock in the afternoon, may shut off service and carry away from the premises the meter, pipes, fittings, wires or other property belonging to the corporation and may disconnect the property of the corporation from the property not belonging to it, so that service may be cut off.

In the case entitled *Reno Power, Light & Water Co.* v. *Public Service Commission*, in the United States District Court, appearing in P. U. R., 1923-E, page 500, the rule was laid down by the Court that where a deposit may be required from the customer, bad debts could not be considered in determining whether rates were confiscatory except upon satisfactory evidence that the company was in no wise at fault. Since there was a deposit required before service would begin, and in the absence of any explanation as to why bills were not paid, the Court held that the only conclusion was that bad debts were due to negligence on the part of the company and would not allow the item as operating expense in a case involving confiscation.

In the case of *Libby* v. *Libby Gas & Electric Co.*, P. U. R., 1923-C, page 206, the charge for uncol-

lectible accounts was not allowed for the same reason as was given in the previous case.

The item of uncollectible accounts was not allowed in the case entitled *Home Telephone Co.*, P. U. R., 1922-D, page 21.

To the same effect was the decision in the case entitled *St. Joseph Railroad, Light, Heat & Power Co.*, P. U. R., 1921-C, page 767.

In the case entitled *Pawnee Telephone Co.*, before the Nebraska State Railroad Commission, appearing in P. U. R., 1923-C, page 100, at page 102 the Commission states as follows:

> "Respondent criticized the accumulation of slow and bad accounts and the management which permitted such accrual. The criticism is no doubt justified, but inasmuch as the Commission assumes that all bills were collected to the extent of 98½%, such accrual of bad accounts is more subject to the criticism of stockholders than of subscribers, since losses in such accounts in excess of 1½% must, under our finding, be at the expense of net earnings."

In the case entitled *Red River Power Co.*, before the North Dakota Board of Railroad Commissioners, appearing in P. U. R., 1923-E, page 534, the Commission said:

> "There are numerous small charges to operating expense which in other proceedings the Commission has disallowed, among which is donations to charitable organizations, persons and employees, prohibition of club dues incurred out of the State and smaller charges which should be paid out of net earnings. The amount charged to uncollectible accounts is also excessive. The Commission permits utilities to file deposit rules as a protection

against bad accounts and we are of opinion that consumers who pay their bills promptly should not be penalized by requiring them to bear excessive charges of uncollectible accounts."

Mr. Little, it seems plain is far more logical than the Master in respect to these distribution costs. The Master merely makes the statement that "it may be difficult to assign a particular sum of money for each item of expense for the year but that the total cost per thousand of each item of expense may be forecast for the experience of the company and the price paid for labor and materials" (p. 49).

He then proceeds to take bodily the unit figures as to various distribution costs for the year 1923 and adopts them as the probable figures for 1924. Mr. Little's method may be difficult but he was equal to the difficulty and was untouched by cross examination. The Master's method is easy but it is obviously wrong.

Mr. Little's figure for distribution costs, taxes and so forth should be adopted, with a correction only for the slight excess of sales estimated by Mr. Little over the sales actually made as stipulated on the record. Mr. Little's figure for these expenses is 33.4477 cents per M. Deducting miscellaneous revenue of 3.5733 cents per M gives a net distribution expense of 29.8744 cents per M. The difference caused by Mr. Little's slight overestimate of sales is 1.06 cents per M which must be added to arrive at the correct figure. This gives distribution expenses of 30.9344.

Production expenses amount as we have seen amount to 45.2221 per M sold. Adding to this distribution costs gives a total cost of making and distributing gas of 76.15 cents per M cubic feet sold as the reasonable cost for the year 1924.

This leaves a return of 23.85 cents per M available for income taxes, bond interest and dividends.

On the conceded sales of 1,947,208 M cubic feet this leaves $444,994 available for return after paying $19,416.00 income taxes.

This is a return of 6.71% on the rate base of $6,900,000 as of December 31, 1923.

EVEN THE MASTER'S FINDINGS AS TO EARNINGS DO NOT JUSTIFY A CONCLUSION OF CONFISCATION.

Even taking the Master's figures and a proper rate base, moreover, the results, having in view the constantly decreasing costs of production conclusively indicate that over a reasonable period of years and giving proper weight to the very evident decrease in operating expenses, the company would earn far more than an adequate return upon the reasonable value of its property.

The Master finds (Finding 29) that the net return after payment of Federal Income Tax under the dollar rate for the year ending December 31, 1923, would have been 18.33 cents per M, or $329,028.01. He further finds (Finding 31) that for the year ending December 31, 1924, the company would have a return amounting to 19.23 cents per M cubic feet, or $374,439.38. These figures give a return on a rate base of $5,800,000 of 5.69% for 1923, and 5.76% on rate base of $5,800,000 for 1924. This rate base as we have seen is more than prudent investment.

These results were obtained while the company was charging the exorbitant rate of $1.30 per M cubic feet. This rate of $1.30 made available to the company, a return of nearly 10% on the Master's excessive valuation, and would have enabled it to pay dividends on all its outstanding capital stock of over 25%. The result of this excessive rate

has no doubt been to reduce the sales of gas per meter, and even to retard the building up of this territory. In the rest of Brooklyn, with the exception of Coney Island, and in a large part of Queens, people are and have been paying only $1.15 cents per M to the Brooklyn Union Gas Company and its subsidiaries for a better quality of gas than that furnished by the plaintiff. If with such an exorbitant rate the company can show earnings as found by the Master of $374,439 on the dollar basis which give a return of nearly 5.5% on a fair valuation of $6,900,000, it seem quite plain that if the statutory rate had been put in effect sales per meter and gross would have been much larger and the return considerably greater.

The evidence is overwhelming, moreover, that the costs of production are and have been raipidly declining. Defendants' Exhibit 49 (p. 940, fol. 1445) is a graph showing from the company's own books the cost of making gas and the cost of the various elements entering into that cost for the years 1922, 1923 and up to March, 1924. From a cost per M cubic feet sold of over 73 cents, in March of 1922, the company has reduced its costs to 42½ cents for the month of March, 1924. With these figures in mind and with no experimentation of the statute, certainly the Court would not be justified in declaring the statute to be confiscatory.

That future costs are the important element in judging a statute is emphasized in Kronxville v. Knoxville Water Company, 212 U. S., 1, 15, where this Court said:

> "The precise subject of inquiry was, what would be the effect of the ordinance in the future. The operations of the preceding fiscal year, of any other fiscal year, were valueless if the year was abnormal, and were only of significance so far as they foretold the future."

In this case there was considerable testimony as to the future trend of prices. Professor Hollander, also called in the Brooklyn Union case, testified in effect (pp. 535-5767) that owing to the great quantity of gold in this country and the large credit used prices are apt to stay where they are. Professor Kemmerer on the other hand testified that as European countries gradually returned to a gold basis the supply of gold in this country would diminish and prices would fall (pp. 694-721). Both based their theories on the quantity theory of money. As pointed out by Judge Brandies in the State ex rel. Southwestern Bell Telephone Company v. Missouri P. S. C., 262 U. S., page 302.

> "The course of prices for the last 112 years indicates that there may be a practical continuous decline for nearly a generation; that the present price level may fall to that of 1914 within a decade; and that, later, it may fall much lower."

POINT VI.

This company is not entitled in a case of this character to more than a six per cent. return.

The testimony as to rate of return in this case is similar to that in the other cases.

Mr. Hayes of Blair & Company, financial agents for appellee. He testified "that it is necessary that it earn enough to get capital" (p. 527) and that in its opinion it was necessary for it to earn 8%.

The testimony here as in the other cases, however, does not sustain the Court's ruling on this point. The difficulty of course is that while financial men are interested only in returns on stock

issues the Court is fixing a rate on value of property.

For instance Mr. Hayes said (pp. 528, 529):

> "In a general way I have known of some 7 per cent. preferred stock which the company has sold recently, marketed by the company direct to its customers and employees. I understood it was offered to the customers at par and taken. It pays dividends at the rate of 7 per cent. It is entirely consistent with my statement that 8 per cent. is a necessary rate of return, because it is a 7 per cent. return on a type of investment that is not as good as the bond. It comes after the bond, and therefore, has to yield the investor a larger rate of return. The investor in this is getting 7 per cent. I don't recall the company paid more than 7 per cent. for the issue of those bonds. This 7 per cent. preferred stock is entirely consistent with the statement that an 8 per cent. return is necessary because in order to market a 7 per cent. preferred stock, it must earn more than 7 per cent. which has to be available for the preferred stock. There must be a margin over the 7 per cent. dividend requirement, as a protection to the investor. If I may give an instance, I will say that you pay on the bonds, plus what you pay on the preferred stock, plus what you consider a reasonable return on the common stock, and I would say it comes out at about 8 per cent. on the entire investment, in the main."

This is a fair statement of the financier's attitude and while Mr. Hayes said something about this return being on "value" it was apparent that he knew little about "value" and cared less. He is a dealer in securities, not in values. How far such testi-

mony is from proving the reasonable return on "value" if "value" is taken at twice or more of the stock issues is quite apparent.

The Publice Service Commission Law of the State of New York (Section 69) provides that a gas corporation can only issue its stock or bonds for money actually expended for capital purposes, or to be expended for a particular construction job. Such limitation on stock and bond issuance is one of the primary purposes of the New York State Public Service Commission Law. Governor Hughes and the State Legislature appreciating that if during a period of high prices utilities were empowered to increase security issues to equal the then value of its property, additional money for needed improvements or extensions could not be raised during a period of low prices, that investors would lack the confidence in utility securities that is given by the knowledge that such securities rest on the sound basis of money actually expended in the building of the plant. The right of the State to so regulate corporations has never been successfully attacked. *People ex rel. Binghamton Light, Heat & Power Co.* v. *Stevens*, 203 N. Y., 7, and *People ex rel. Delaware & Hudson Co.* v. *Stevens*, 197 N. Y., 1.

There is, therefore, no way in which this plaintiff can increase its bonds or stocks to equal the valuation fixed by the Master. It is therefore necessary in considering what is "a sufficient return to pay the annual charges of present investors and to afford confidence that such charges will continue to be paid" to apply such rate to the actual capital of the company. Making such application we find:

Master's Valuation (Finding 22)		$11,200,656
Master's Rate of Return (Finding 23)		8%
Available for Bond interest and Preferred Stock dividends and Common Stock dividends		$896,052.48
Less—		
Interest on Funded Debt		
$750,000 First Mtg. Bonds @ 5%	$37,500	
$2,389,000 Refund. Mtg. Bonds @ 5%	119,450	
$1,822,000 Refund. Mtg. Bonds @ 6½%	118,430	
Dividends on Preferred Stock		
$500,000 Series "A" Pref. Stock @8%	40,000	
$702,400 Series "B" Pref. Stock @ 7%	49,168	
		364,548.00
Available for dividend on Common Stock		$531,504.48
This applied to 50,000 shares of Common Stock at book value, $2,000,000 gives a dividend return of		26.5%

This clearly demonstrates the fallacy of attempting to justify a rate of return applied to a theoretical valuation by discussing and considering what return is actually required to secure capital. The two propositions can not be reconciled. Either the actual outstanding capital of the company must be accepted and a net return allowed that will enable the utility to secure in the money market required funds, or the Court must utterly disregard all actual facts and definitely allow earnings on a hypothetical valuation without regard to what dividends such earnings will enable the utility to pay, or whether such rate of earnings are necessary to attract and keep capital.

We call the Court's attention to the recent opinion of the United States Supreme Court in *Dayton-Goose Creek Ry. Co.* v. *United States,* 263 U. S., 456, where Mr. Chief Justice Taft, in referring to the rate of return provided for in the Transportation Act, said (p. 486):

> **"The act fixes the fair return for the years here involved, 1920 and 1921, at five and a half**

per cent. and the Commission exercises its discretion to add one-half a percent. The case of *Bluefield Water Works & Improvement Co.* v. *Public Service Commission,* 262 U. S., 679, is cited to show that a return of six per cent. on the property of a public utility is confiscatory. But six per cent. was not found confiscatory in *Willcox* v. *Consolidated Gas Co.,* 212 U. S., 19, 48, 50; in *Cedar Rapids Gas Light Co.* v. *Cedar Rapids,* 223 U. S., 655, 670; or in *Des Moines Gas Co.* v. *Des Moines,* 238 U. S., 153, 172. Thus the question of the minimum of a fair percentage on value is shown to vary with the circumstances."

Some of the other cases in the United States Supreme Court, holding a rate will not be declared confiscatory if it allows a return of less than eight per centum (8%) are:

San Diego Land and Town Co. v. *Jasper,* 189 U. S., 439, at 446;

Stanislaus County v. *San Joaquin C. & I. Co.,* 192 U. S., 201, at 216;

Willcox v. *Consolidated Gas Co.,* 212 U. S., 19, at 50;

Cedar Rapids Gas Co. v. *Cedar Rapids,* 223 U. S., 655, at 670;

City of Louisville v. *Cumberland Tel. & Tel. Co.,* 225 U. S., 430, at 436;

Des Moines Gas Co. v. *Des Moines,* 238 U. S., 153, at 172;

Darnell v. *Edwards,* 244 U. S., 564, at 567.

POINT VII.

The provisions as to rate and standard should be considered as severable. Both should be upheld. If either must be considered unconstitutional the other should remain.

The testimony as to the proposed standard of 650 B. T. U.'s per cubic foot is fuller in this case than in any other. Yet it must be confessed that the more one reads it the more confusing it becomes when considered in connection with the mathematical facts.

The most satisfactory witness of all those called in all the cases on this puzzling subject was on the stand for a long time in this case. This was Mr. John F. Wing of the Boston Consolidated Gas Company.

Mr. Wing testified frankly admitted that "a high candle power gas, and a high B. T. U. gas is mostly a parallel definition" (p. 408). He also said (p. 360), "That 570 B. T. U.'s was the B. T. U. content of the 16 candle power gas we were sending out before that." He stated that "In order to get a particular standard we use a given amount of oil so that we will get that standard" (p. 361).

Speaking of the relative value of 650 B. T. U. gas and of 537 B. T. U. gas he said (p. 413):

> "Speaking of the 650 B. T. U. and the 537 B. T. U. gas, my assumptions were that if the apparatus was properly adjusted in both cases, and the price remained the same, the consumers would get better service; they would get more for their money. That is the view of it. In making that answer I assumed that the gas coming into the burner of one is 650 gas and coming into the burner of the other is 537 B. T. U. gas uniformly. That is, that the

man has got his burner adjusted for 650 and he is uniformly getting that B. T. U. content. And it remains exactly as adjusted for 537, and he is uniformly getting that content. And it is under those circumstances that one would be getting more for his money than the other. That is the man getting the higher B. T. U. content. The man who is being supplied with 650 B. T. U. gas, or a company that is operating on a 650 B. T. U. standard is not likely to get a uniform standard of heat content at his burner nearly as constant as in the case of the lower heating value. If he does get it constant, he might get more for his money at that. It is an insignificant difference. If there is any difference, it is in favor of the richer gas."

He agreed with Circular 32 of the Bureau of Standards that value of gas to consumers varies simply with the number of B. T. U.'s contained assuming the proper adjustment in each case (p. 415).

Of the other witnesses Mr. Searle of Rochester testified that nobody knows how to make 650 B. T. U. gas (p. 432). If no one knows how it is difficult to explain the positiveness of the assertions of the witnesses as to the results that would be obtained.

Mr. A. Gordon King, Engineer of the American Gas Association (p. 470) testified to the general practice as to thermal content. He testified flatly that a high B. T. U. was of no value to the consumer (p. 478) but emphasized its value by stating that in England gas is charged for not by the cubic foot but by the "therm" which is 100,000 B. T. U.'s.

He also said there was no relation between can-

dle power and thermal content but said that the higher the candle power the higher the thermal units.

Mr. Wing explained the reason that gas of less heat units was of as much value as richer gas and why, contrary to the mathematics of the situation, the consumer would not need more of the poorer gas than of the richer for the same work. He said (p. 405):

> "Per meter it would theoretically be natural to expect an increase in the quantity consumed when the B. T. U. content is lowered, and vice versa, a reduction in the quantity consumed when the B. T. U. content is increased. I do not find that so. It does not follow. I think the particular reason for it not following is that many of the 200,000 meter holders were careless of the lower B. T. U. gas; in either case it was a question of whether they burned it efficiently or not; it was a question of burning the gas for the same time for the same purposes, especially applicable to domestic consumers.
>
> "The housekeeper is a creature of habit and will boil or cook articles the same length of time, and in boiling are usually—almost always—wasteful; in boiling a teakettle they will heat it up to boiling and then let it boil In using radiant fires for heating, there is no regulation of the appliance to temperature; if it is lighted it stays lighted, and with water heaters the same is true."

This may be the explanation but it is not particularly complimentary to the house wife.

There are other evidences in the record, however, that indicate that the need of adjustment when changing from either a low to a high B. T. U. is

based on efficiency of burning only and not on possible hazards.

As has already been shown this company went from 22 candle power gas and using 4.5 gallons of oil down to 10 candle power gas at the close of 1917. Not only was this done without advertisement but obviously without changing appliances.

Moreover, Mr. Morris testified that an investigation of the gas appliances on the district showed that upwards of 20% were of such a character that they were incapable of any adjustment except by an expert with proper tools and then only for a lower quality gas (pp. 352-358).

It moreover clearly appeared that all that is said of 650 B. T. U. gas could more accurately be said of the 22 candle power gas which was furnished with satisfaction to consumers for 15 or 20 years. The testimony was that this gas tested all the way from 750 B. T. U. to 568 B. T. U. (Defts. Ex. 6, pp. 882, 883).

The record leaves the matter in a puzzling situation. It may fairly be said, however, that when the company wanted to change its thermal content downward no danger was apparent. Yet Little said there was more danger in decreasing than in increasing the thermal content (p. 681).

Reading between the lines and gauging the interest of the various witnesses it seems clear that to make 650 gas while unwise in the experts' judgment is neither impossible nor dangerous.

We have considered all aspects of this question in great detail in our briefs in Ottinger v. Consolidated (pp. 139-152) and in Ottinger v. Brooklyn Union (pp. 132-141). To these briefs we respectfully refer the Court.

Similarly we will not here treat of the presumption of constitutionality (see brief in Ottinger v. Consolidated, pp. 117-119) or of the necessity for experimentation (Id., pp. 119-123).

POINT VIII.

The decision of the Court below should be reversed and the case remanded with instructions to enter a decree dismissing the complaint.

Respectfully submitted,

JOHN HOLLEY CLARK, JR.,
Solicitor for Appellant Ottinger.

WILLIAM HAYWARD,
JOHN HOLLEY CLARK, JR.,
CHARLES E. BUCHNER,
ANTHONY P. LUDDEN,
of Counsel.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1926.
No. 365.

ALBERT OTTINGER, as Attorney General of the State of New York,

Appellant,

against

KINGS COUNTY LIGHTING COMPANY,

Appellee.

Direct Appeal from the District Court of the United States for the Eastern District of New York—Three Judges Sitting, Section 266, Judicial Code.

BRIEF AND ARGUMENT FOR APPELLEE.

SAMUEL F. MORAN,
Solicitor for Appellee,
14 Wall Street,
New York City.

SAMUEL F. MORAN,
JOHN D. MONROE,
Of Counsel.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1926.
No. 365.

ALBERT OTTINGER, as Attorney General of the State of New York,
Appellant,

against

KINGS COUNTY LIGHTING COMPANY,
Appellee.

Direct appeal from the District Court of the United States for the Eastern District of New York—three judges sitting, section 266, Judicial Code.

BRIEF AND ARGUMENT FOR APPELLEE

This is an appeal, direct to this Court under section 238 of the Judicial Code, as amended by the Act of February 13th, 1925, by a defendant below, from the decree of the District Court for the Eastern District of New York filed September 9th, 1925. The decree declares unconstitutional and void, and restrains the enforcement of chapter 899, laws of 1923, of the State of New York, which purports to fix a price and prescribe a standard for gas furnished in the City of New York. The defendants below were the Public Service Commission and the Attorney General. The

latter alone has appealed, having obtained an order of severance against his co-defendant.

The testimony in the cause was taken before a Special Master whose report came up for confirmation on final hearing before a Special Term of the District Court, where the cause was heard and determined by three judges, Circuit Judge Manton and District Judges Campbell and Inch. The report of the Special Master and the unanimous opinion of the District Court confirming the same is reported *sub nom. Kings County Lighting Company v. Prendergast, et al.* (7 Fed. (2nd) 192, *et seq.*).

Statement of the Case

An act of the legislature of the State of New York, approved by the Governor June 2, 1923, and taking effect immediately, being chapter 899, laws of 1923, entitled: "An Act to amend the public service commission law, in relation to the charge for illuminating gas in cities containing a population of one million or over," amended the Public Service Commission Law of the State of New York, being chapter 480, laws of 1910, by inserting therein a new section to be known as section 67-a, reading as follows:

> "§67-a. *Charge for gas in cities of one million or more.* A gas corporation engaged in the business of manufacturing, furnishing or selling illuminating gas in a city containing a population of one million or over shall not charge or receive for gas furnished or sold in such city a sum per one thousand cubic feet in excess of one dollar, nor furnish in such city gas of a standard less than six hundred and fifty British thermal units per cubic foot, measured under normal conditions of temperature and atmospheric pressure. The public service commission, notwithstanding any

other provision of this chapter, shall not allow a rate or charge in the case of such cities in excess of such sum."

Immediately upon the passage of said act, appellee brought this suit in the exercise of its constitutional right, now established by a long line of decisions, to test as a judicial question the repugnancy of the rate so fixed to the United States Constitution; also to test the validity of the provision of the statute fixing the standard of gas to be supplied.

Appellee is a gas corporation duly incorporated under the Transportation Corporations Law of the State of New York, and has been and is engaged in the business of manufacturing, furnishing and selling gas for public and private use in the thirtieth ward, and a small part of the thirty-first ward, in the Borough of Brooklyn, City of New York.

The maximum rate of 80 cents per one thousand cubic feet for gas in the territory served by appellee, fixed by chapter 604, laws of 1916 was declared confiscatory in actions brought by appellee. (*Kings County Lighting Co.* v. *Newton*, 202 App. Div. 473, affd., 235 N. Y. 599; *Kings County Lighting Co.* v. *Niron*, 268 Fed. 143, affd., 258 U. S. 180).

At the time of the passage of the statute drawn in question in this case appellee was charging $1.30 per thousand cubic feet in accordance with an order of the Public Service Commission dated August 30, 1922, and was supplying gas of a standard complying with an order of said commission dated the same day, fixing a monthly average of 537, and a minimum of 525, British thermal units per cubic foot, and has continued to make such charge and supply such

gas under the temporary and permanent injunctions granted in this cause.

The report of the Special Master, confirmed by the Court, contains an accurate and concise statement of the material facts in the case. In the elimination of non-essentials and in the orderly and effective manner in which the essential facts are stated, the Special Master has simplified the work of court and counsel. The work of the Special Master cannot fail to commend itself to this Court. His opinion and report, it is believed, will compare favorably with any ever filed in a confiscation case.

The Special Master found that appellee's reasonable and necessary operating costs, exclusive of any Federal income tax, for 1923, were 86.08 cents, and for 1924, were 84.50 cents per thousand cubic feet of gas sold (findings 24, 25, 26 and 29). He also found that had appellee furnished gas of 650 British thermal units, the like operating costs would have been in each instance at least 5.44 cents greater, or in 1923, 91.52 cents, and in 1924, 89.94 cents, per thousand cubic feet of gas sold (findings 28, 30 and 32). With these costs it is obvious that very little would be left for return upon property if gas were sold at $1. per thousand cubic feet. The Special Master in his findings, Nos. 29 to 32, inclusive, has made careful computations as to just what the return would be in each year under the $1. rate. Such computations show:

1. Had the rate of $1. per thousand cubic feet for gas of the standard *actually furnished* been enforced against appellee, there would have been available for return upon its property $329,028 in 1923, and $374,439 in 1924, which is a return of less than 3½ per cent. per annum upon the fair value of the property.

2. Had appellee furnished gas of *650 British thermal units* at $1. per thousand cubic feet, there would have been available for return upon its property but $234,230 in 1923, and but $277,847 in 1924, which is a return of less than 2½ per cent. per annum upon the fair value of the property.

Values of the property used in appellee's gas business have been found and stated as follows (finding 22):

Land	$ 994,002
Manufacturing plant, distributing system and other structural property	8,041,003
Restoring street pavement over mains and services cut by plaintiff in laying the same	97,696
Miscellaneous general equipment	102,541
Working capital	600,000
Going concern value	800,000
	$10,635,242
Cost of additions to fixed capital, June 1, to December 31, 1923	565,414
	$11,200,656

Appellee's operations are practically limited to a single ward in the Borough of Brooklyn. When the act took effect, June 1st, 1923, appellee had approximately 205 miles of gas mains laid and had installed on the premises of customers 50,717 gas meters (finding 8). On April 30, 1924, just before the taking of testimony closed, its installed meters had increased to 58,653, indicating a population served of about 250,000 (finding 15). Its sales in 1923 were 1,794,969,872, and in 1924, 1,947,207,840, cubic feet of gas (findings 24 and 26).

The Court unanimously approved the finding of the Master that the provision of the act forbidding appellee to fur-

nish gas of a standard of less than 650 British thermal units per cubic foot, was an arbitrary and unreasonable exercise of the police power and wholly void and unconstitutional. This finding is based upon the uncontradicted testimony of four experts, one of whom was called by the Attorney-General, the appellant here, to the effect that it is impossible for a gas company to render safe and efficient service to its consumers unless it furnish gas of a substantially uniform heat content, and that it is utterly impossible to maintain a uniform heat content in attempting to comply with a standard of 650 British thermal units per cubic foot. Gas of as high heat content has never been supplied anywhere for general industrial and domestic uses (findings 34, 35 and 36).

ARGUMENT

The rate prescribed by the statute of 1923 and which the District Court, after a thorough and painstaking judicial inquiry, has held inadequate, was adopted by the legislature without any investigation whatever (p. 23). It represents not even a prediction or prophecy as to what would be an adequate rate (Cardozo, *J.*, in *Municipal Gas Co.* v. *P. S. C.*, 225 N. Y. 89, 96) springing from any information on the subject. It was the mere *ipse dixit* of legislative power, and the act promulgating it was passed for no other evident purpose, and certainly has had no other effect, than that of precipitating litigation at the expense of the utilities and rate payers affected.

While the legislature passed the act in question blindly, the Public Service Commission set up and maintained by it to find the necessary facts and to exercise the state's rate making function, had full information on the subject

upon which it had previously fixed a rate for appellee. Further than this, prior to the taking of testimony and during its progress appellee afforded the defendants, including the Attorney General, a full and free opportunity to examine its property, works, books of account and records, and this was done by them. With such information the Public Service Commission acquiesces in the decree from which the Attorney General alone has appealed. No substantial questions of law touching the state's rate making power are involved. Under the circumstances the appeal of the Attorney General amounts only to an attempt to foist upon this Court that portion of the state's rate making function which calls for an ascertainment of the facts. In substance and effect the legislature, in disregard of the facts and of the Public Service Commission, has fixed a rate and left it to the Federal courts to find facts to support it. What in reality was done, in the fixation of a rate for gas in New York City, was the substitution of the Federal courts for the Public Service Commission in all things except the declaration of the rate.

While it is not contended by appellee that under sections 238 and 266, Judicial Code, this Court can dismiss the appeal, it nevertheless remains the law that rate making is no part of the duty of this Court, and the attempt of the Attorney General to press the high judicial function of this Court into that service as a mere fact finding mechanism, seems so unnecessary as to amount to an imposition, especially in view of the further consideration that in this case the facts were found by a skilled Master and have been passed upon and approved by *three* judges in the District Court.

The points of the following argument deal with the reasonableness of the operating expenses, the fair value of the

tangible property, what, if any, sum should be deducted for depreciation, actual or theoretical, and the allowance for going value. While certain principles of law are relied upon and the authorities establishing them cited, they are used or relied upon incidentally in the argument in an analysis of the testimony claimed to support the findings made and approved.

Even the finding of the Master and District Court that the provision of the statute forbidding the furnishing of gas of a standard less than 650 British thermal units per cubic foot is an unreasonable and arbitrary exercise of the police power and violative of the constitutional rights of appellee is a *finding of fact* (*Weaver* v. *Palmer Bros. Co.*, — U. S. —, decided March 8, 1926). When it is determined upon the evidence of competent witnesses that appellee would be unable to render safe and efficient service to its customers in attempting to comply with such a standard, the legal conclusion is inevitable that the provision is violative of the constitutional rights of appellee under principles of constitutional limitations long and clearly established by the decisions of this Court.

I

Appellee's operating expenses, or the cost of manufacturing and distributing gas exclusive of return upon capital employed, as found, are supported by uncontradicted testimony.

Neither appellant, nor defendant Public Service Commission, at any stage of the case has ever questioned the reasonableness of the prices paid by appellee for the material and supplies used, or for the labor employed, in the manufacture and distribution of gas; nor has either ever claimed that the quantity of material used was excessive, or that the labor was inefficient. The Public Service Commission called no witness upon the cost of manufacturing and distributing gas. Appellant called one witness, Mr. Little, who qualified as a gas engineer of extended experience. This witness said that the plant was well maintained and efficiently operated, so much so that he predicted that the employees responsible would be entitled to an increase in salary; he also said that the use of gas oil was extremely efficient and that appellee secured its gas oil under advantageous contracts (pp. 646, 678).

The only error assigned with respect to the operating expenses for 1923, is the charge that appellee "failed to prove any reasonable basis for arriving at the cost per gallon charged by it in Plaintiff's Exhibit 85 for the water gas tar reported used" (assignment 8). The Master has fully covered the subject of the use of water gas tar as boiler fuel in his opinion (pp. 45, 46). The substance of the matter is this: There is a residual known as water gas tar which appellee uses for boiler fuel. Operating expenses are credited with the residual recovered at the price

paid for the gas oil then being used, and operating expenses are charged with this cost of the residual when the same is used as boiler fuel. Occasionally it is found necessary to store water gas tar and use it at a later date for boiler fuel, when the price of oil may be higher or lower than at the time of the recovery of the residual. Appellant contended below that water gas tar used should always be charged at the price of oil at the time of use. If that were done in 1923, it would have reduced the operating expenses less than six mills per thousand and that is all that the error assigned means. (Computations may easily be made substantiating this statement from Plaintiff's Exhibit 49, p. 837). The evidence is uncontradicted that water gas tar at the price charged in the operating expenses in 1923, was cheaper as a boiler fuel than coal or coke at then market prices (pp. 346, 391). If appellee had not stored up water gas tar in 1922, and used it in 1923 at the price charged, it would have had to supply an equivalent in boiler fuel in another way at an expense at least as great. There is no merit in appellant's contention.

The sole error assigned with respect to the 1924 operating expenses is "that the Master should have followed the calculations of the defendants' witness Little as to the proper costs of production and distribution for this year; * * * that the costs * * * do not take into account or make any readjustment for the improper method of crediting water gas tar" (assignment 10). The taking of testimony was closed in the early spring of 1924 and the results of the operations were not available except for the first four months. Merely for the purpose of showing that the confiscatory character of the rate as established by the operating results of 1923 continued and was likely to continue in the future, appellee introduced in evidence its oil

and coke contracts covering its requirements for 1924 and presented an estimate of the probable cost of manufacturing and distributing gas for the year 1924 (Appellee's Exhibit 84, p. 876). This estimate shows a possible reduction of 1.58 cents per thousand from the like costs of the previous year. The Special Master in his opinion (pp. 48-49) makes a complete analysis of this exhibit and the evidence supporting the same and in his report makes a computation or an exact estimate of the probable operating expenses for 1924, showing a cost for such operating expenses, exclusive of Federal income tax, of 84.50 cents per thousand for gas of the quality actually being furnished by appellee and 89.94 cents per thousand for gas of 650 British thermal units (pp. 69-70).

Appellant's witness, Mr. Little, made a forecast of the probable operating expenses for the twelve months ending December 31st, 1924, contained in appellant's Exhibit 48. It is now urged under this assignment that the Master should have followed Mr. Little's calculations rather than those of appellee's own auditor.

In the statement of points appellant informs us that it will be urged that the probable necessary costs in 1924 should have been found to be not greater than 76.15 cents per thousand. Appellant in submitting this estimate of 76.15 cents per thousand for 1924 and urging its acceptance by this Court suppresses the fact that it is his estimate of the cost of making gas of 540 British thermal units per cubic foot and not 650 British thermal units as prescribed in the statute. The production of the higher heat content gas admittedly costs at least 5.44 cents more per thousand (p. 68), which would raise his estimate to 81.59 cents per thousand.

Of course the amount of the operating expenses for 1924 and in fact for 1925, are now well known. It is no longer necessary to conjecture or make a forecast about them. They have been duly reported to the Public Service Commission of the State of New York, and no doubt have been inspected by appellant's counsel. Also, when the Master's tentative report was submitted to counsel on March 5th, 1925, the expenses for 1924 were well known and it was no longer necessary to conjecture about them. At the conference before the Special Master attended by all counsel, concerning his tentative report on March 5th, 1925, the following occurred:

> "MR. CLARK (Appellant's counsel): There is one thing I would like to ask Mr. Moran, and that is the Master has estimated the 1924 figures for gas. It occurred to us that it might be in the interest of truth to state the actual figures as long as they are now known, and stipulate them right here, and we would not have to guess at them.
>
> MR. MORAN: That is satisfactory.
>
> THE MASTER: Which means immediate estimated operating expenses for 1924 you refer to, Mr. Clark?
>
> MR. CLARK: Yes. On page 34 you consider a 5 per cent increase would be reasonable to assume. Wouldn't it be simple just to stipulate on the record now just what the actual sales were for 1924?
>
> MR. MORAN: We have a statement of the expenses for 1924.
>
> MR. CLARK: I do not mean the statement of the expenses but the actual sales, that is all. We need not speculate in March, 1925, what the sales were in 1924 when it is a matter of public record what they actually were.

MR. MORAN: So, too, the cost is a matter of record.

MR. CLARK: Well, we can not retry that, we can not go into that. We could hardly retry that question. That would open the case up again. The only estimate is on the sales.

THE MASTER: I had to estimate operating expenses as well as sales. The estimated sales were the basis of the estimated operating expenses.

MR. CLARK: Yes, and the sales were so simple to ascertain it did not seem to me there would be any difficulty in putting it in. Of course that is merely a suggestion, to do it instead of estimating it. Put in the actual sales and that will be helpful. How does that appeal to you, Mr. Moran?

MR. MORAN: I have no objection to it at all. It is perfectly satisfactory. Even the expenses of 1924.

MR. CLARK: Well, I would not want to put those in.

* * * * * * * *

BY MR. MORAN:—

Q. Mr. Gonnoud, what were the total sales of the company in the twelve months ended December 31st, 1924?

A. 1,947,207,840 cubic feet" (S.M. 4099-4104, not printed).

Had appellant's present counsel availed himself of the statement of operating expenses for 1924, it would have appeared in this record, as it does appear in appellee's annual report filed with the Public Service Commission, that it cost appellee to manufacture and distribute gas in the twelve months ended December 31st, 1924, 83.52 cents

per one thousand cubic feet, exclusive of Federal income tax, as against the Special Master's estimate of 84.50 cents, and as against appellant's present contention that such expenses should not be greater than 76.15 cents per thousand. Appellant's counsel fails to understand that appellee's estimate of operating costs for 1924 was not introduced for the purpose of *establishing* confiscation but to show that the confiscation established by the actual results in 1923 continued, and was likely to continue in the future. We think nothing more need be said in support of the operating expenses actually incurred in 1923, and as estimated for 1924.

II

The one dollar rate was fixed by the legislature for gas of the heat content of 650 British thermal units per cubic foot, and the adequacy of said rate must be determined on the basis of the higher cost of furnishing gas of such heat content.

The statute in question fixes the rate of one dollar per thousand cubic feet for gas of the quality therein prescribed and for no other kind or quality of gas. The record in this case clearly establishes that expenses of manufacture vary with the thermal content of the gas supplied. A gas of low thermal content can be made more cheaply than a gas of a high thermal content. As between a gas of approximately 540 British thermal units heat content and one of 650, there is a difference at present prices of materials of at least 5.44 cents per thousand cubic feet. The difference would be greater with a wider variation in thermal content. The regulation of a rate for gas must necessarily, therefore, make reference to the quality of gas that it is intended shall be supplied at the rate prescribed. This is what the legislature has attempted to do in this instance and the adequacy of the rate must be tested on the basis that it is for gas of the standard prescribed in the statute. If this be not so, for gas of what standard is the adequacy of the dollar rate to be tested? A possible contention that the adequacy of the dollar rate should be tested on the basis of gas of the quality prescribed in the Public Service Commission's order of August 30, 1922, can command the respect of no one. If the provision for a standard in the Act of 1923 is invalid, then the Public Service Commission is free to prescribe a standard other than that prescribed in its order of August 30th, 1922 (Public Service Commission

Law, Sec. 66, as amended by chapter 134, laws of 1921). Thus, unless this statute within its own four corners fixes a legal standard, or makes reference to the standard of the gas to be supplied at the rate there fixed, it is void for indefiniteness. Every police regulation must be so definite that all affected by it may know what they are expected to do. (*United States* v. *Reese,* 92 U. S. 214, 219; *United States* v. *Cohen,* 255 U. S. 81, 89; *Connally* v. *General Const. Co.,* 269 U. S. 385, 391.)

The rate prescribed is plainly confiscatory for gas of 650 British thermal units per cubic foot. The Special Master has found that it would have yielded above operating expenses in 1923, but $234,230.26, and in 1924, but $277,847.39, which is less than 2½ per cent. on the value of the property employed by appellee.

Even if the rate be tested, as it may be contended it should be, on the basis of gas of the quality actually supplied by appellee under the order of the Public Service Commission, it is likewise plainly confiscatory. The dollar rate for such gas would have yielded but $329,028.01 for return in 1923, and but $374,439.38 in 1924, which is less than 3½ per cent. upon the fair value of the property.

III

All proper elements were considered and applied in the ascertainment of the fair value of the physical or tangible property of appellee employed in the service of the public.

In finding No. 22 the Special Master has stated the fair and reasonable value of all the property employed by appellee in the service of the public as of December 31st, 1923, at $11,200,656, classifying the same under six different heads. No exception has been taken to the land valuation of $994,002, and the testimony of the witnesses concerning this value is entirely omitted from the record. The item for restoring street pavement over mains and services is limited strictly to the expenditures actually made by appellee for that purpose, and no exception has been taken to the same by appellant. The item for miscellaneous general equipment of $102,541 is the actual cost of the same, and no exception is taken thereto. The Master's allowance for working capital, it is understood, is now conceded to be reasonable. The item for going concern value is treated under a subsequent point. There remains for consideration here only the item of $8,041,003 for "manufacturing plant, distributing system and other structural property." This structural value, or the value of all structural property, including the underground distributing system, is made up of the separate values found by the Master for each class or kind of structure as set forth in his finding No. 9 (all overhead expenses entering into such values being separately stated), as follows:

Buildings	$ 752,134
Manufacturing apparatus and equipment and gas holders	1,590,291
Gas mains in streets	2,898,617
Gas service pipes	1,109,686
Gas meters on customers' premises and in stock	816,870
Engineering, superintendence and general contractor's expense and profit	317,536
Interest during construction	421,623
Taxes during construction	25,646
Administration, legal and miscellaneous general expenses during construction	127,014
	$8,059,417
Cost of restoring to new condition	18,414
	$8,041,003

In his opinion the Special Master has detailed the method employed by him in ascertaining these several values and stated the use he made of the testimony of the different witnesses called by appellee (pp. 30-34). The Master's figures and computations can all be verified by reference to appellee's Exhibits 34, 36 and 39 (pp. 773, 795-8, 801). It is to be noted that appellant's assignment of errors, so far as it relates to this finding, is limited to the allowances for the four items of costs commonly called overheads. But neither defendant called a single witness to testify with respect to such items or as to any structural value whatever. Appellee's testimony stands uncontradicted and appellant's counsel puts forward in this Court his unverified assertions against the sworn testimony of appellee's concededly competent witnesses. An issue of fact cannot be raised in this manner on appeal.

The reproduction cost of the manufacturing plant, dis-

tributing system and other structural property, as testified to by Colonel Miller and as contained in appellee's Exhibit 39 (pp. 801-803), is $11,231,825. Colonel Miller in preparing the exhibit showed the reproduction cost of the whole property, including land, working capital and all other items, and nowhere separated the reproduction cost of the manufacturing plant, distributing system and other structural property as a group. It is easy, however, to separate his figures and calculate the reproduction cost of these structures as included in his total reproduction cost of the whole property. For the convenience of the Court and to emphasize the fact that the Special Master's structural value of $8,041,003 is not the reproduction cost new of the structures, we have computed from Exhibit 39 and separately grouped the reproduction cost of these structures as follows:

Buildings	$ 752,134
Manufacturing apparatus, equipment and gas holders	1,590,291
Gas mains in streets and paving	3,924,527
Gas service pipes and paving	1,528,120
Gas meters on customers' premises and in stock	816,870
Engineering, superintendence and general contractor's expense and profit	577,148
Interest during construction	686,522
Taxes during construction	25,646
Administration, legal and miscellaneous general expenses during construction	209,306
Organization and development prior to construction, 5% on above items aggregating $10,110,564	505,528
Interest on last mentioned item	80,884
Financing, 5% on total	534,849
	$11,231,825

The uncontradicted testimony of Colonel Miller is that the above amounts, and each and every one of them, would need to be expended by a corporation in 1923 in laying the mains and services, and erecting the buildings and installing the equipment new.

The Special Master has made a comparison between his value of the structural property, and the cost of the same as appears from the books of appellee and its predecessor. In his opinion, he points out that the cost of structural property on the books of appellee's predecessor at the time of its merger, July 1st, 1904, was $2,302,097, and that the cost of net additions to such structural property to December 31st, 1923, as made by appellee, was $4,198,604, making a total book cost of this structural property of $6,501,601 (pp. 29, 30).

Later in his opinion (pp. 40, 42) the Special Master makes a more interesting comparison or check with this historical cost as shown by the books and his ascertained value of these structures from the testimony of the witnesses called in this case. He points out that the cost of structural property at December 31st, 1915, was $3,619,772.94, to which he applies the Index Number of 150, giving a figure for the structural property at this date of $5,429,659.41. Net additions to fixed capital from December 31st, 1915, to December 31st, 1923, were $2,881,828.15, making a total of $8,311,487.56. The economists, Professors Hollander and Kemmerer, testified that wholesale prices of general commodities for December, 1923, were 150 per cent of such prices in 1913 (pp. 538, 729). [The so-called historical cost used by the Master in making his comparison or check, will be found on appellant's Exhibits 21 (pp. 892, 895) and 36 (folded sheet following p. 910), and appellee's Exhibits 61 and 81, with further detail on appellant's Exhibits 23 to 35, inclusive, pp. 898-910.]

A reading of the Master's opinion will convince the most skeptical that he took into account every pertinent and material element in arriving at the proper valuation to be assigned to the structural property. He did not base his value of these structures upon reproduction cost, much less did he find the value of the whole property on the basis of the reproduction cost of the same. The Master's value, as approved by the District Court, of the property existing June 1st, 1923, is in round figures $10,600,000. There was but one witness who gave evidence as to the cost to reproduce the whole property new at June 1st, 1923, to wit, Colonel Alten S. Miller, and he fixed its reproduction cost, exclusive of going value, at $13,700,000 (Appellee's Exhibit 39). If to this figure is added $800,000 for going value, there is a reproduction cost of $14,500,000 as against the value found by the Master and approved by the District Court of $10,600,000. No one contradicted Colonel Miller and no one could honestly contradict him as to the reproduction cost of this property in its entirety.

It is submitted that a contention made by appellant in support of his sixth assignment of error to the effect that in ascertaining fair value neither the Court nor the Special Master gave consideration to any element except reproduction cost new, is entirely without support in this record, and is expressly negatived by the opinion of the Master and the careful calculations and comparisons made by him in arriving at the values assigned to the different classes of property.

While this Court has repeatedly held that the ascertainment of the fair and reasonable value of the property of a public utility for rate making purposes, or for any other purpose where the constitutional guarantee against deprivation of property without due process and just com-

pensation is concerned, is not controlled by artificial rules and formulas, but there must be a reasonable judgment having its basis in a proper consideration of all relevant facts, it has also held, almost as frequently since the increase in prices incident to the world war, that there can be no such reasonable judgment and there is no such proper consideration of relevant facts, where "the highly important element of present costs is wholly disregarded."

The Court has frequently asserted that it is the fair and reasonable value of the property at the time of use and of the inquiry that is to be ascertained and protected, and not its cost. Nowhere has it ever been asserted or suggested by this Court that the measure of fair and reasonable value is the original cost; nor has the Court ever reversed a decree based on, or which sustained a valuation based on, reproduction cost at prices prevailing at the date of the inquiry in disregard of original cost; whereas, the Court has several times reversed such decrees where the valuation was based on original cost in disregard of present prices.

Six recent cases decided by this Court furnish sufficient authority for and conclusively support the action of the Special Master and the District Court in the findings here made as to the fair and reasonable value of appellee's structural property. Those cases are:

Southwestern Bell Tel. Co. v. *P. S. C. of Mo.*, 262 U. S. 276;

Ga. Ry. & Power Co. v. *R. R. Comm. of Georgia*, 262 U. S. 625;

Bluefield Water Works & Impt. Co. v. *P. S. C. of W. Va.*, 262 U. S. 679;

Ohio Utilities Co. v. *P. U. Comm. of Ohio*, 267 U. S. 359;

Fort Smith v. *Southwestern Bell Tel. Co.*, U. S. ; decided January 25, 1926, affirming *Southwestern Bell Tel. Co.* v. *Fort Smith*, 294 Fed. 102;

Mobile Gas Co. v. *Patterson*, U. S. ; decided April 26, 1926, affirming same title, 293 Fed. 208.

In *Southwestern Bell Tel. Co.* v. *P. S. C. of Mo.* (262 U. S. 276), the Commission, whose valuation had been sustained by the judgment of the Supreme Court of Missouri, which was here reversed, made a valuation in June, 1919, which, so far as it was predicated upon appraisals, was based upon prices prevailing in 1913, 1914 and 1916, and accorded no weight to the greatly increased cost of material, labor and supplies which had intervened and was present in 1919. This Court held that "it is impossible to ascertain what will amount to a fair return upon properties devoted to public service without giving consideration to the cost of labor, supplies, etc., at the time the investigation is made" (pp. 287-8).

In *Georgia Ry. & Power Co.* v. *R. R. Comm. of Georgia* (262 U. S. 625), the Commission whose valuation was in question, while giving careful consideration to the increase in prices and to the cost of reproduction, valued that portion of the plant which was in existence January 1, 1914, at substantially its actual or reproduction cost as of that date, and the balance, apparently, at its actual cost when constructed, which for a part thereof was higher than were costs at the date of the inquiry. The District Court and this Court refused to interfere with the rate fixed by the Commission on the ground that it had given "conscientious consideration" to the evidence, had recognized the ap-

plicable rules of law, and had reached a reasonable conclusion as to values. There was a sharp dissent by the late Mr. Justice McKenna, on the ground that as to the property valued on the basis of 1914 prices the decision was contrary to that of the Court in the *Telephone Case* and the *Bluefield Case,* in that the reproduction cost of the utility, less an estimate of depreciation, at prices prevailing at the time of the inquiry represented its then value just as much as the cost of production represented its value when produced in or prior to 1914, and, so far as the value of 1914 was adopted, it was in violation of the rule of the cases.

The implication of this case obviously is that this Court will not interfere with a valuation made in the exercise of a reasonable judgment, based on a conscientious consideration of all relevant facts in evidence.

In *Bluefield Water Works & Impt. Co.* v. *P. S. C. of W. Va.* (262 U. S. 679), a judgment of the state court sustaining an order of the Commission fixing water rates was reversed. The Commission's valuation of the physical property was made in September, 1920, and was arrived at substantially on the basis of actual cost, less depreciation, and this Court said that the Commission did not accord proper, if any, weight to the greatly enhanced costs of construction in 1920 over those prevailing about 1915 and before the war, and wholly disregarded detailed estimated costs of reproduction new, less depreciation, at 1920 prices; that the state court likewise failed to give proper consideration to costs of construction in 1920 and "failed to give weight to cost of reproduction less depreciation on the basis of 1920 prices." This, the Court held, was erroneous and "resulted in a valuation considerably and materially less than would have been reached by a fair and just consideration of all the facts."

In *Ohio Utilities Co.* v. *P. U. Comm. of Ohio* (267 U. S. 359), the valuation of the utility's property was based on, and represented reproduction value, less depreciation, and there was no criticism of this basis of valuation throughout the case. The Commission rejected items of overhead, reduced working capital, and made an arbitrary deduction from the company's actual operating expenses, with all of which this Court disagreed and reversed the judgment of the State Court, which had affirmed the order of the Commission.

In *Fort Smith* v. *Southwestern Bell Tel. Co.* (—— U. S. ——, decided January 25, 1926, affirming the same case reported in 294 Fed. 102), the Court affirmed a decree permanently enjoining enforcement of a rate ordinance. The only valuation was that made by the District Court. There the city contended that in determining present value, prices should be considered as of the date when the particular items were purchased, but the District Court held that this was not the rule, and this Court affirmed upon the authority of the foregoing cases and others.

In *Mobile Gas Co.* v. *Patterson* (—— U. S. ——, decided April 26, 1926, modifying and affirming a decree of the District Court, 293 Fed. 208), the decree affirmed enjoined the enforcement of rates fixed by the Alabama Public Service Commission in July, 1922. So far as the decree adjudged the rate schedule confiscatory on the basis of a valuation of the utility's property as of December 31, 1921, plus additions to property thereafter made, this Court found no reason to object and to that extent the decree was affirmed. In its opinion (293 Fed. 208, 217), the District Court discussed the valuation as of December 31, 1921, and stated that it was "reproduction cost new, depreciated, of $1,969,565, containing working capital of $100,000 and

a going concern value of $200,000," which, with additions to December 31, 1922, gave a basic valuation of $2,007,529.68. This, the Commission, in fixing the rate enjoined, reduced to $1,700,000, which represented a valuation based on the difference between the reproduction cost value of $2,007,529.68, and a previous valuation based on pre-war prices. The valuation of $1,700,000 was made by the Commission for the purpose of dividing the increased value due to the difference between reproduction cost and original cost, equally between the utility and its rate-payers. The District Court emphatically condemned this effort on the part of the Commission "to confiscate so much of the company's property as is represented by one-half of the increase in market value between the pre-war period and the present time." This Court in affirming the decree must be assumed to have approved the action of the District Court in adhering to the reproduction cost valuation.

In these six cases, which represent the most recently expressed view of this Court upon the subject of the valuation of public utility property, three of the valuations passed upon were based upon reproduction cost at the time of the inquiry; two were based upon original or pre-war cost in disregard of reproduction cost at the time of the inquiry, and were reversed for that reason; and one, for a part of the property only, was based on pre-war cost, and there this Court refused to interfere because the Commission had given conscientious consideration to subsequent reproduction cost.

In the case at bar, the Special Master and the District Court gave careful, and, no doubt, conscientious consideration, to original or pre-war cost, and by computations made by the Special Master, it was shown that such cost, expressed in dollars of like purchasing power with those

of the date of the inquiry, indicated a valuation substantially the same as that found by him to be the fair and reasonable value of the structural property. Moreover, the value found by the Special Master and approved by the District Court, is not reproduction cost at prices prevailing at the date of the inquiry, as testified to by Colonel Miller, but is several million dollars below that cost. The Special Master stated what his valuation represented when he said:

> "While I have given due consideration to Colonel Miller's estimate of reproduction cost of the plant and property as a whole, I have endeavored to ascertain, and the figures found by me attempt to reflect what it would have cost the plaintiff to build and develop its plant and property, as it was built and developed, had the same level of prices for material and labor prevailed throughout the whole period of its construction as prevailed in June, 1923; in other words, to measure and state the investment in the property in the dollar of the present" (p. 42).

The only alternative for the Special Master and the District Court, or for this Court, on the record, is a holding that the value of appellee's property should have been expressed in pre-war dollars, while the rate and return are necessarily expressed and paid in present-day dollars of greatly decreased purchasing power. This, of course, is confiscation, and not the less so because it is urged by this appellant. The point was well stated by the Special Master in *Arkansaw Water Company* v. *Little Rock* (1924-C, P. U. R. 73), where he said:

> "To fix a valuation as of pre-war time when a dollar, measured by what it would buy, was worth much more than now, and allow only the present prevailing rate of income upon such valuation, is in

> effect to confiscate plaintiff's property when we know, in fact, that all other property has increased in value when measured in dollars. Plaintiff's property, when measured in dollars, would be the same as it was before the war, but, when measured in the amount of other commodities for which it could be exchanged, it would be depreciated. Its income would buy much less cotton or labor than its income did in 1913."

It seems unnecessary here to emphasize the grave economic and constitutional wrong involved in a method or process of valuation which enables a rate-making authority to state the value of public utility property in dollars of a former and higher purchasing power and the rate and return in dollars of the present and reduced purchasing power. As remarked in *Banton* v. *Belt Line Ry. Corp.* (268 U. S. 413, 422), decided May 25, 1925:

> "It is well known, and the court will take judicial notice of the fact, that the purchasing power of money has been much less since 1917 than it was in 1912, * * *; and that the cost of labor, material and supplies necessary for the proper operation and maintenance of street railways has greatly increased."

The present price level is neither accidental in origin, nor temporary in duration. It has been produced by the operation of well understood forces. Since 1921 the general price level has been substantially stable, and from the evidence at hand the conclusion is inevitable that its stability is likely to continue for many years. In fact, the best minds can discern no forces at work that will cause a lowering of the price level, all forces having such a tendency being counteracted by other forces. For the purpose of laying before the Court the reasons for the present price

level and giving scientific information as to what may reasonably be expected in the future, appellee called as a witness Dr. Jacob H. Hollander, Professor of Economics, at Johns Hopkins University, ranking among the foremost economists in this country, who gave illuminating testimony with respect to the present price level, its causes and the forces working for its stability, all of which is printed in full in the record (pp. 535-592, 609, 610). The witness used a number of charts and curves in explanation of his testimony, which were received in evidence and appear as Appellee's Exhibit 80 (pp. 870-871). Justice cannot be done to the testimony of this eminent witness by any attempt of counsel to summarize it, or quote excerpts from it. It should be read in its entirety. It is with reluctance that a mere outline is here attempted. In accounting for the present price level and in substantiation of his opinion that it would continue comparatively stable, the witness, among other things, said (pp. 545, 546, 551, 552):

> "A review of the ten years' experience, therefore, lends or gives a very definite confirmation to this contention that prices are not accidental, that they do not just happen. This price or that price may represent shortage or over-production, but the index number is designed to avoid that. The general purchasing power, the buying power of a dollar, when it undergoes such changes increases in obedience to certain definite laws and those laws are that if the amount of money is increased without corresponding expansion in the amount of goods, prices go up, and conversely. * * * There was an influx of gold at the outbreak of the European war and it has continued and there is a large quantity here now, very much more than there was at the outbreak of the war. Besides the gold, there has been an expansion of the credit system and that has

> continued. * * * Prices had been rising steadily from 1897 on. I account for that long period there of almost twenty years, the upward trends, that is due to an increase in the volume of circulative money in the two countries, England and America, but to make my answer more intelligible, let me say that you secure an increase in the amount of money, first, by an increase in the primary money which is gold, and then by the erection of a credit fabric, credit structure, upon that. If you improve your bank effectiveness so that with a smaller amount of gold you can do a larger business, for instance, through the introduction of checks generally, you magnify the effect of the increase gold production."

Having thus accounted for the new or higher price level the witness mentioned the forces and circumstances which were necessary to bring about a recession through a reduction in the amount of circulative medium and pointed out that there were no forces at work which would naturally reduce the ratio of circulative medium to the volume of business to be expected. He further pointed out that business men, however, they felt about it in bygone times, were no longer in favor of fluctuations in prices. They had learned their lesson and were in favor of stability in price levels, and worked to that end; also that the Federal Reserve system was in a position practically to control price levels by contraction or expansion of credits as occasion required. In conclusion the witness in effect said that stability of the price level of 1923 and 1924, barring temporary incidental fluctuation, might be expected to continue. The witness gave his testimony in the spring of 1924 and the experience of the intervening two and one-half years has confirmed his position.

The Attorney General called Dr. Edward W. Kemmerer, Professor of Economics at Princeton University,

who also is among the foremost economists of the country, and he gave testimony on direct and cross-examination in substantial corroboration of Dr. Hollander's testimony (pp. 694-745). The witness, however, expressed the opinion that the All Commodities Index number then standing at 150 (p. 739), as against 100 for 1913, might "jog down somewhere * * * between 135 and 145 before we get things settled down" (pp. 720, 721). (The latest publications show the index number at 149.)

The Misleading Contentions of Appellant

Appellant contends for "prudent investment" as the sole measure of value and seeks to establish his claim of such investment by reference to previous findings of courts and commissions, all *de hors* this record, and all of which have been disapproved on review. Great stress is laid by appellant's counsel upon the opinion of the trial court in the case of this appellee against *Lewis*, then Attorney General (110 Misc. 204), denying in 1920 relief to appellee from the confiscatory effect of chapter 604 of the laws of 1916, fixing 80 cents per thousand cubic feet as the maximum price for gas in the territory served by appellee. On appeal from the adverse judgment in that case the Appellate Division unanimously reversed the same and annulled all the conclusions of law, 20 in number, and 73 of the 114 findings of fact made by the trial court, including the finding, so impudently urged by appellant here, that the investment of appellee's predecessor did not exceed $1,000,000 (202 App. Div. 473; pp. 888-892). On the appeal of the Attorney-General to the Court of Appeals the judgment of reversal was unanimously affirmed (235 N. Y. 599). In all, that case was considered by thirteen judges, twelve of whom disagreed with the trial judge in the conclusions

stated in his opinion, which is now quoted to this Court at length and constitutes the main reliance of the present Attorney General in support of his appeal from the decree of the District Court. Further than that, the 80 cent rate was challenged by this appellee in 1920, in a suit in the United States District Court for the Southern District of New York commenced immediately after the adverse decision in the case just referred to, which suit was heard by Judge Hough and a decree entered upon his opinion declaring the statute unconstitutional and the 80 cent rate confiscatory (268 Fed. 143), and Judge Hough's judgment or decree was affirmed by this Court (258 U. S. 180). In the page proof of appellant's brief (p. 23) it is stated that in the case just mentioned "on consent of the company Judge Hough found a valuation of $3,300,000 which being increased by net additions since 1920 gives $5,800,000 as of June 1st, 1923, and $6,400,000 as of December 31st, 1923." Reference to the opinion of Judge Hough will show that this is entirely erroneous. The misleading intent, however, well illustrates the unfair means adopted by appellant throughout his argument. In that case operating expenses exceeded the revenue at the 80 cent rate. It was not necessary to prove the value of the property since operating expenses alone resulted in confiscation. To curtail the taking of evidence, appellee secured from the public authorities there a stipulation or acknowledgment that it had property in the service of the public worth at least $3,300,000. This stipulation was the subject of interpretation by Judgh Hough, whereof he said (p. 150):

> "The substance and effect of the stipulation between the parties referred to in this exception was that for the purposes of this litigation, and not otherwise, the plaintiff had an actual investment devoted to gas making, whereof the value was at least $3,300,-

> 000. The report is modified so as to set forth this first fact; but it is further the fact that if for any purpose after decree, *e.g.*, on application made at the foot of the decree when drawn in usual form—either party is dissatisfied with this stipulation or the legal effect thereof or the legal inferences to be drawn therefrom, then either party may seek and obtain opportunity to adduce evidence in respect of value."

Appellant contends for a valuation of $6,300,000 and in further support thereof says (brief, p. 22): "We are content, however, to rest upon witness Little's calculation contained in Exhibit 45 (p. 915) and appended to this brief." This exhibit opens with a statement:

> "An attempt is herein made by the Engineer representing the defendant, the Attorney-General, to arrive at the prudent and reasonable investment in the plaintiff's property used and useful in serving the public. The amount hereinafter set forth is built on a foundation consisting of an appraisal made by the Public Service Commission of the First District, as of December 31, 1910."

The Public Service Commission did make an appraisal of appellee's property as of December 31st, 1910, and fixed a rate for gas on the basis of such appraisal, but on certiorari the determination and order of the Commission were reversed and annulled by the Appellate Division and the matter was remitted to the Commission (156 App. Div. 603). On the appeal of the Commission to the Court of Appeals such annulment was affirmed (210 N. Y. 479). Thus, here again the learned Attorney-General submits for the guidance of this Court findings with respect to appellee's property which have been annulled by the courts on review. And he seeks to find *prudent investment* not by

reference to the books, but by recourse to a figure, as he says, "built on a foundation consisting of an appraisal."

The basic figure the appellant would have this Court take as representing the prudent investment in the property existing December 31, 1910, is not what was expended for such property or the cost thereof, but, as shown by the exhibits and the decisions of the courts, is reproduction cost at prices prevailing in 1910, less an excessive deduction for so-called theoretical depreciation (see opinion of Mr. Justice Clarke of the Appellate Division, 156 App. Div. 603, 606).

Thus, appellant constructs his figure of $6,300,000, which he asks this Court to accept as "the proper rate base," or "fair value" of appellee's property, in great part out of, (1) a finding of original cost, which has been annulled and reversed on appeal, (2) an appraisal by the Public Service Commission, which, with the determination based thereon, was reversed on certiorari, and (3) a "valuation" asserted to have been "found by Judge Hough," which was not a valuation, or a finding of value, but a figure stipulated under circumstances rendering a valuation unnecessary.

When this Court is called upon by the Attorney General of the State of New York, at the expense of its taxpayers, to read rubbish of the sort above exposed,—when the limbo of reversed decisions, annulled findings, overruled orders and repudiated opinions is searched, and such an array of duly adjudicated errors is solemnly resurrected and brought forward by the highest law officer of a state and by him urged in the Supreme Court of the nation as appropriate bases for its action, it is respectfully submitted that the limit of tolerance has been reached. As said by a member of this Court in another connection, "It is easy enough

* * * to smile at such stuff"; but, if such farcical exhibitions are not to continue, "there should be condemnation forceful enough to prevent repetition so long as men have eyes to read" (Separate opinion of Mr. Justice McReynolds in *Goltra* v. *Weeks*, U. S. , 70 L. ed. 714, 720, decided June 7, 1926).

Appellant's counsel vainly attempts to demonstrate that there must be something radically wrong with the decision below, either as to the value of the property or rate of return, through a computation he makes which he claims shows that under the decision appellee will be able to pay 26 per cent. dividends on the $2,000,000 stated value of its no par value common stock (appellant's brief, pp. 61, 62). In this computation appellant's counsel assumes that the bonds and stock issued and outstanding at the time of the trial, and stated in finding No. 4 of the Master's report, financed, and represent, all the property owned by appellee constituting the rate base. There is no warrant for this assumption, and, while the record fails to disclose the true situation, the fact is that the additions made to appellee's property for more than a year, and possibly for two years, before the trial of this case, had remained uncapitalized, *i.e.*, expenditures were made from the treasury of the company or from borrowings not mentioned in the findings. It is a further fact, that since the close of the testimony appellee has issued more than an additional $1,000,000 of 7 per cent. preferred stock, which was sold to the public to finance in part (by reimbursing its treasury) such additions made prior to the trial of the case.

Under the Stock Corporation Law of New York a board of directors may give any stated value that they please for outstanding no par value stock, and may change such

stated value from time to time by concurrent credits or charges to surplus. There is nothing to prevent appellee's directors from doubling, trebling or quadrupling the present stated value of its no par value capital stock (Stock Corporation Law, chapter 787, laws of 1923, sections 12 and 36).

But even if the computation were correct, appellant could not justify confiscation by pointing to a high rate of dividend any more than appellee could establish confiscation by pointing to a low rate of dividend. The only test of confiscation is the presence or absence of a fair return upon the fair or reasonable value of the property.

There is, however, a simple computation which will fairly demonstrate that the decision below is correct as to both valuation and rate of return. It is found that the $1 rate for gas of 650 British thermal units would yield a return of less than 2½ per cent. per annum on the fair value of the property as found by the Master (findings 30, 32 and 33, pp. 69-71). To increase this rate of return to 8 per cent. appellee's revenue would need to be increased by approximately $600,000 (5½% on $11,000,000). To produce this increased revenue requires a rate of 30 cents per thousand cubic feet in excess of that yielding a 2½ per cent. return (appellee's present rate of $1.30) on an average sale of 2,000,000 M cubic feet per year. The price of $1.30 per thousand cubic feet is less in purchasing power than appellee's pre-war price of 95 cents per thousand. It is a matter of common knowledge, a fact announced almost daily by financial concerns and professors of economics, that the present purchasing power of the dollar is about 68 cents as compared with the dollar of 1913. $1.30 is, therefore, equivalent to about 88 cents of pre-war times (1.30 x .68).

This computation shows that a rate for gas which is substantially lower in purchasing power than that charged by appellee before the world war, will still produce an 8 per cent. return upon the value of the property, or rate base, approved by the District Court,—a result which, in view of the increasing sales, would naturally be looked for, and a result which shows that the valuation made below was extremely well considered.

IV

The uncontradicted testimony shows that appellee's plant has been so maintained as to suffer no *actual* depreciation, and there is no basis in the testimony, or in fact or law, for making a deduction for *theoretical* depreciation.

Appellee's operating expenses, utilized in testing the adequacy of the rate, include no charge for *annual* theoretical depreciation of structural property; hence a deduction from the value of the structural property, as found, for *accrued* theoretical depreciation could be justified in no view of the case.

From a reading of appellant's point on the subject of depreciation, appellee's counsel are unable to determine whether appellant claims a deduction should have been made for *actual* depreciation, or for *accrued theoretical* depreciation, or for both; but in this case any claim by appellant for a deduction for *actual* observable depreciation can be disposed of upon the evidence, and the want of evidence. No man has said in this record that this appellee's property has suffered any actual depreciation. On the contrary, the testimony is that outside of current daily repairs not a dollar could have been economically or reasonably expended to repair any structure or piece of apparatus owned by appellee, forming a part of the so-called rate base, as it existed on June 1st, 1923. And if one wanted to be so foolish as to spend money to put the plant in a condition substantially like new, it could have been accomplished with an outlay of $18,414. Appellant's witness Mr. Little made no allowance for depreciation (p. 692).

He testified:

"I have been through the plaintiff's plant and

a certain part of it is visible. I have cast my eye over it. I do not make estimates of accrued depreciation on such an examination as that. The plant looks in pretty fair average condition, as gas plants go, *and every repair that is reasonably required has been made,* so far as I could see in the time at my disposal. The gas works and holders and shop buildings on 65th Street are all well preserved and well maintained. *If I were in charge I could not expect to see it much better than it is* * * *. As to the extent of the accrued depreciation, I would not say anything more, but I think it should be taken on what you observe, and I have not had a chance to observe it fully. I consider that accrued depreciation is a fact and can only be determined with observation" (p. 692).

Colonel Miller, called by appellee, testified fully on the subject of actual depreciation. In substance he said that he had very carefully examined and noted the condition of the property and that appellee's plant and property were in better condition, through being fitted to the work, than a new plant (pp. 216, 511, 513), and with expenditures amounting to $16,537.92 (Appellee's Exhibit 40) the structural property, other than buildings, would be in a condition, so far as the several parts or items thereof were concerned, as good as new; and as an operating plant, better than new (p. 511). He explained fully that through repairs and periodic overhauling the customers' meters were kept in a perfect state of repair, a condition as good as new—saying: "The meters are the very essence of the company's business. They must be kept in good condition" (p. 217). He also called attention to the indestructibility of cast iron mains, saying, that they suffered no deterioration through wear and tear, that there is no corrosion on the inner surface, and the outer surface is not affected by

soil conditions in appellee's district. The witness had seen cast iron mains removed after many years of service, and never saw one adversely affected through age or use. The only occasion for making repairs is due to the injury sometimes done by other work in the streets. His testimony in respect to service pipes was substantially to the same effect (pp. 217-219). The witness also testified that gas holders, if properly and regularly painted, would last indefinitely, —the oils in the gas having a preservative effect on the interior of the holder. The witness is engaged in the building of holders, and, in a long experience, has never replaced but one holder, and that was replaced because of improper design (pp. 219-220).

Mr. Burt, appellee's witness on buildings, said that its buildings were in good condition (pp. 155, 156), and with expenditures amounting to $1,855.50 the buildings would be the same as new buildings (pp. 155, 156).

Appellee's plant has admittedly been conducted with unusual skill and care (pp. 646, 692), which of course means the maintaining of it in a high state of repair and efficiency. In his brief in this Court, in discussing operating expenses (p. 40) and wholly unmindful of the inconsistency in his position as between operating expense argument and depreciation argument, appellant's counsel says: "The record shows that a large proportion of plaintiff's plant is new and will need little repairs in the next few years."

Neither appellant, nor the defendant Public Service Commission, made any attempt to show that the structural property had suffered any actual, observable depreciation which was not made good by current repairs and replacements. Neither called any witness on the subject at all.

Appellee by the testimony of two of its witnesses and the cross-examination of appellant's witness Little, showed that the property had suffered no actual depreciation. Now, on such a record how, can appellant hope to have the decision below criticized for a failure to make a deduction for actual depreciation which the evidence showed did not exist.

If, however, appellant seeks a deduction for accrued theoretical depreciation, he is confronted with the same lack of evidence, and what is more, his argument for such accrued theoretical depreciation is in direct conflict with the testimony of his expert, Mr. Little. Theoretical depreciation is a term commonly used to describe a shrinkage in value in structural property which a certain cult of experts and lawyers says goes on from day to day and year to year simply by the passing of time; even if the particular structure or piece of apparatus shows no sign of wear or tear, and no lack of efficiency, there is, nevertheless in their view, a lessening of value one day after another and the accumulation of this daily and yearly shrinkage is what they call accrued depreciation, failing most frequently to use the word *theoretical* to distinguish it from actual depreciation. In this case appellee, at all stages, by its witnesses, its counsel and its officers, wholly and entirely repudiated the theory and submitted cogent proof that the whole idea of theoretical depreciation is fallacious (see testimony of Miller (pp. 508-511), and briefs of counsel before the Special Master and the District Court). Appellee has also repudiated the idea of theoretical depreciation by its practice in keeping its accounts. It is obvious that there can be no *accrued* theoretical depreciation unless there be an *annual* theoretical depreciation. If there be an annual theoretical depreciation it is an expense of manufacturing and dis-

tributing gas, and provision should be made in cost accounting to cover and fully meet it; but appellee has not included in its operating expenses a dollar or a cent to cover annual theoretical depreciation. The Master has so found and the District Court has approved the finding. After stating the operating expenses of appellee for 1923, the Master found as follows:

> "The expenses incurred by plaintiff in the manufacture and sale of gas in the year ended December 31st, 1923, stated in the preceding finding do not include any charge for depreciation. The only charge made over and above the actual expense for repairs is 3 cents per thousand cubic feet of gas sold to provide for the retirement of fixed capital or plant withdrawn from service, which for the purposes of this case I have reduced to 1½ cents" (p. 66).

This is of real consequence to appellee because by claiming an annual theoretical depreciation it could make an income deduction for income tax purposes, which it does not do.

As noted above, appellee by its witnesses and counsel in this case, and its practice during the period under review and for years before, has repudiated the doctrine of theoretical depreciation from age, and that evidence confronts the appellant here. But what has he to say to the testimony of his own witness Little who freely admitted the unsoundness of the theory and testified:

> "I consider that accrued depreciation is a fact and can only be determined with observation. For instance, if a building is depreciating because it is a year older than it was a year before, then if you go on that theory, you have to increase your operating expenses on that basis, if you take the straight

> line method, or the sinking fund, or either one of them, that is if it is based on a life table. In these expenses that I have put in here, I have not increased them or allowed in them anything to meet that situation" (p. 692).

It seems to appellee's counsel that this Court in *Pacific Gas Co.* v. *San Francisco* (265 U. S. 403, 406) disapproved the making of deductions from property values for *theoretical* depreciation. The Court, after remarking that the Master had used the "modified sinking fund method" in estimating depreciation, said:

> "Appellant objects to the application of this method and insists that depreciation should have been ascertained upon full consideration of the definite testimony given by competent experts who examined the structural units, spoke concerning observed conditions and made estimates therefrom. As these examinations were made subsequent to the alleged deprecation for the definite purpose of ascertaining existing facts, we think the criticism is not without merit. Facts shown by reliable evidence were preferable to averages based upon assumed probabilities. When a plant has been conducted with unusual skill the owner may justly claim the consequent benefits."

In fact, appellee's counsel are not aware of any opinion in any case decided in this Court where a deduction from property values for *theoretical* depreciation was approved. Almost always, and in all cases, the Court is speaking of actual depreciation (*Minnesota Rate Cases,* 230 U. S. 352, 457).

The learned counsel for appellant while arguing for a deduction for theoretical depreciation makes no suggestion

that if his claim is allowed the operating expenses must be increased or burdened with a certain number of cents per thousand. It is quite difficult to know whether his contention would net him anything, or further his general attack upon the decree. It would seem that if the computations for accrued theoretical depreciation and annual theoretical depreciation were accurately made, the question of confiscation would not be affected, because the reduction in the necessary return due to the reduced rate base should be precisely equal to, and should be offset by, the reduction in the net revenue available for return.

If appellant's counsel fails to secure a larger deduction for, either unproved actual depreciation, or unproved theoretical depreciation, he then urges upon this Court that the credit balance of $201,910 in appellee's Retirement Reserve (p. 60) should be deducted as a measure of depreciation of some kind.

The Retirement Reserve is a balance sheet account under the uniform system of accounts for gas corporations promulgated by the Public Service Commission (Appellee's Exhibit 88, p. 765), and the credits thereto are made from an expense account called Retirement Expense. Appellee is subject to this uniform system of accounts and observes its requirements in practice. The nature and purpose of both this balance sheet and expense account are stated in the texts or definitions thereof contained in the uniform system, printed as an appendix hereto, appellee's Exhibit 88, being omitted from the printed record.

As stated in the text of the balance sheet account, the reserve is provided "in order that corporations shall, through the creation of adequate reserves, equalize from year to year, as nearly as is practicable, the losses incident

to important retirements of buildings, etc., or of large sections of continuous structures like gas mains, or of definitely identifiable units of plant or equipment." Losses incident to the retirement or supersession of other, or minor items, are taken care of in the repair expense accounts. The losses through the supersession of these minor items are uniform and there is no necessity of creating a reserve to "equalize from year to year" such losses,—they equalize themselves. The expense account, Retirement Expense, differs from the expense repair accounts only in that the former provides for losses occasioned through the retirement of important buildings or pieces of apparatus, while the latter provide for losses due to the retirement or supersession of minor items and general repairs. The credit balance in the Retirement Reserve, indicates the extent to which the accounting corporation has gained, in the equalization process, on actual retirements. A debit balance in the reserve would indicate that there is a lag in the equalization process, the retirements exceeding the credits made from Retirement Expense.

It will be noted that the word "depreciation" is not used in the text of this balance sheet account, and for that matter the uniform system of accounts for gas corporations in New York State now in force, has no balance sheet or expense account providing for accrued theoretical or actual depreciation or for annual theoretical or actual depreciation. The scheme of the system is that through the repair expense accounts coupled with the balance sheet account, Retirement Reserve, and the expense account, Retirement Expense, the accounting corporation's property will be maintained and perpetuated at 100 per cent. efficiency. Appellee, and all the large gas and electric corporations in the City of New York formally accepted this method of ac-

counting, deeming the same sound and workable in practice, based upon an experience of over a quarter of a century. Appellee, and such other corporations, had no hesitancy in recommending this method to the Public Service Commission and are satisfied that it is in the best interests, not only of the corporations, but of the public which uses their service. It is not a function of the Attorney General, or any of his deputies, to urge in this Court, or elsewhere, another method of providing for the maintenance and perpetuation of the properties of corporations subject to the jurisdiction of the Public Service Commission. The statute specifically authorized the Public Service Commission to promulgate a uniform system of accounts for gas and electric corporations. The present system was promulgated through the adoption of an order made, after prolonged public hearings at which the Attorney General was not represented and of which he did not have notice. It would seem that if the Attorney General is in disagreement with the Public Service Commission on this question, and has a standing in law to do so, his only recourse would be by direct review in the state court of the action of the regulatory body created by the state. "The requirements of the system of accounts have the force of law" (*People ex rel. Kings County Lighting Company* v. *Straus*, 178 App. Div. 840, 842).

By no process of reasoning can any competent accountant, engineer or lawyer, establish that the balance in the Retirement Reserve at any particular time is a measure of a depreciation, actual or theoretical, in the property of the corporation whose books show such credit balance. And unless it be a measure of depreciation no one for an instant can suggest that it be deducted in order to reach a rate base.

The small balance in appellee's Retirement Reserve was

created principally by a charge through Retirement Expense of 3 cents per one thousand cubic feet of gas sold annually. But the Master in calculating appellee's operating expenses for 1923 reduced this charge to 1½ cents per one thousand cubic feet (p. 66). The actual retirements in 1923 charged to Retirement Reserve exceeded the credits thereto from Retirement Expense under the charge of 1½ cents per one thousand cubic feet. And if such charge were continued the small credit balance would soon disappear because the actual retirements, averaged over a short period, will amount to more than 1½ cents per thousand cubic feet sold.

In *New York Telephone Company* v. *Prendergast* (300 Fed. 822), on an application for a temporary injunction, the District Court for the Southern District of New York, Hough, *C.J.*, and Knox and Winslow, *D.JJ.*, sitting, it appeared that the Commission had deducted as a measure of depreciation, a credit balance in an account styled on the company's books "depreciation reserve." It was held that this was error. The *per curiam* opinion reads (p. 824):

> "To deduct from the fair value of plaintiff's property the entire book reserve for depreciation, in order to reach a rate base, was error of law. * * * The book charges represent what observation and experience suggested as likely to happen, with some margin over. The legal error is in not recognizing that the law requires deduction only for actual depreciation, just as actual as the present value, and the extent of that depreciation must be ascertained by the same kind of evidence; in the last analysis, opinion based on contemporary investigation."

The same Court, Rogers and Manton, *C.JJ.*, and Augustus N. Hand, *D.J.*, sitting, reasserted and adhered to this ruling on a motion to modify the preliminary injunction in

the same case (*New York Tel. Co.* v. *Prendergast,* 11 Fed. [2nd] 162, 163), and the District Court for the Eastern District of South Carolina, Cochran, *D.J.*, sitting, followed this ruling in *Southern Bell Tel. & Tel. Co.* v. *R. R. Comm.* (5 Fed. [2nd] 77, 96). In *Monroe Gas Light & Fuel Co.* v. *Michigan P. U. Comm.* (292 Fed. 139, 147), the District Court for the Eastern District of Michigan, Denison, *C.J.*, and Tuttle and Simons, *D.JJ.*, sitting, it was held that the credit balance in a retirement reserve had no evidentiary force upon the question of depreciation. This Court in *Board of P. U. Commrs. of New Jersey* v. *N. Y. Tel. Co.* (U. S. , decided April 12, 1926), cited the decision in the *Monroe* case with approval, and held that the order of the Board requiring the company to apply a part of the credit balance in a depreciation reserve account to overcome deficits in present or future earnings to sustain rates which would otherwise be confiscatory, amounted to confiscation. By such process the corporation was simply deprived of the property in which the credit balance in the reserve was invested, but no more so than it would have been deprived of the same property had such credit balance been deducted in order to reach a rate base, which appellant seeks to have done here. When a corporation is deprived of its property, such property is confiscated, and the manner of such deprivation does not change the fact of confiscation. There is no difference between depriving the corporation of the right to earn upon the property in which the reserve is invested, and compelling it to credit such reserve to income or revenue to sustain rates which would otherwise be confiscatory.

V

Appellee's property was and is an assembled and established gas plant, doing business and earning money, and the element of going concern value therein was and is a property right upon which appellee has a right to make a fair return. The only allowance of this element of value made by the Special Master or by the District Court was in finding number 20, and the allowance so made is supported by undisputed evidence.

The Special Master found and the District Court approved the finding that the element of going concern value in appellee's property is of the fair and reasonable value of $800,000. The finding reads:

> "20. Plaintiff's gas works, plant and system is a complete, connected, established and operating property, doing business and earning money, and the element of going concern value therein is a property right, independent of the franchise, or of any mere good-will as between such plant and its consumers, and such element of going concern is of the fair and reasonable value of $800,000."

In his opinion the Special Master discussed the subject with careful discrimination (pp. 36-39). He pointed out that specific evidence on the subject was given by "a man of wide experience, with a knowledge of the development and maintenance of a gas business that qualifies him to present an opinion that is entitled to weight" (p. 39); he said that if the claim for its allowance "involved capitalization of early losses merely, it might be disregarded" (p. 36), but he found that such was not the basis of the claim, nor the nature of the evidence. On the contrary, he

stated that appellee had developed and extended its business and connected its customers through years of effort and only at considerable expense. He spoke of the difficulty of proving this element of value by direct evidence of the effort made and the money expended, and after carefully considering the evidence on the subject, made the allowance of $800,000, which is substantially 8% of the fair value of the physical property.

The evidence before the Special Master and the District Court relating to going concern value was not only the testimony of the witness experienced in the gas business mentioned by the Special Master, which will be found in the record (pp. 330-334), but the whole history of appellee's inception, development, growth and expenditures extending over a period of more than 30 years, laid before the Master in various forms of evidence and extending throughout the record before this Court.

While the appellant in his assignment of errors has specified a number of bases of attack upon the allowance made by the District Court for going concern value herein, it is apparent that he relies chiefly upon the suggestion that its allowance is contrary to the decision of this Court in *Galveston Electric Co.* v. *Galveston* (258 U. S. 388), to which case he there refers.

But nothing that was decided or suggested in the *Galveston* case touches the action, or the basis of the action, of the Special Master and District Court in the allowance of going concern value here. In that case this Court held that "the cost of developing the operating railway system into a financially successful concern," called by the Master there "going concern value or values of plant in successful operation," supported only by "a capitalization of the net

balance of alleged past deficits," was not allowable in a confiscation case. As the Court pointed out, this was not the same thing, nor was it intended by the Master as the same thing, as "the cost of establishing the system as a physically going concern"—"converting the inert railway plant into an operating system,"—which is one way of proving true going concern value, as many times defined and allowed by this Court. Going concern value as this Court has defined it, viz., "the difference between a dead plant and a live one" (*Omaha* v. *Omaha Water Co.* (218 U. S. 180, 202) was included by both Master and District Court in the *Galveston* case, and its inclusion and allowance was not criticized by this Court. Here the finding made by the Special Master conclusively shows that no element of franchise or good-will was included by him. The basis of the going concern value here allowed by the Special Master was the fact that "plaintiff's gas works, plant and system is a complete, connected, established and operating property doing business and earning money," as distinguished from a plant not operating, not doing business and not earning money. In other words, what was valued for going concern here, was the difference between the dead structure represented by appellee's inert land, manufacturing works, holders, mains and service connections, and the living and going business represented by the same property in actual physical operation, connected with consumers whose properties are fitted and adapted to the use and consumption of gas, and who are paying therefor from month to month.

In the *Galveston* case, to the value of the property as a physically going concern, doing business and earning money, the Master added, and the District Court and this Court disallowed an item of $520,000 representing the esti-

mated cost of developing the physically going concern, doing business and earning money, into a financially successful concern. As this Court pointed out, financial success, or the lack of it, is a question of income or return and not a question of base value or property employed. The distinction is one between income and capital accounting. In the *Galveston* case, accumulated deficits in income were capitalized and added to capital, though no addition was thereby made to the property. In the case at bar, no deficits in income are involved or form the basis of the going concern value allowed, but the basis is capital expenditures for customers and business actually secured, by means of which the inert property was converted into a physically going concern and there was added to such physical property the patronage of customers actually taking and paying for its product, thereby enhancing or increasing the value of such physical property, in a way and by an element everywhere recognized as of capital consequence in estimating the value of such property.

The element of value so added to the inert physical property is, of course, intangible and difficult, if not impossible, of concrete measurement and appraisal. Its monetary value can best be determined by a competent and conscientious Master, familiar with the history and development of the enterprise, with the aid of expert opinion evidence (*Kings County Lighting Co.* v. *Willcox*, 210 N. Y. 479-493), and that is how it was determined here. There is no evidence and no estimate of any sort or description contrary to or in any way disputing the finding of the Special Master in the record. The appellant who assigns error in the allowance of going concern value here, called no witness and introduced no evidence on the subject. His attitude below, as here, was simply that of a captious and obstructive critic.

Since Mr. Justice Brewer in 1894 in *National Waterworks Co.* v. *Kansas City* (62 Fed. 853), pointed out the fact that the valuation of a public utility on the basis of the cost of reproduction of its physical elements does not give the entire value of the property that is in actual operation, supplying customers with its product and earning money, this Court has never held that the going concern value of such a property could be constitutionally disregarded. Going concern value was allowed by this Court in the following cases:

Omaha v. *Omaha Water Co.*, 218 U. S. 180, 202;
Cedar Rapids Gas Co. v. *Cedar Rapids*, 223 U. S. 655, 669;
Des Moines Gas Co. v. *Des Moines*, 238 U. S. 153, 165;
Denver v. *Denver Union Water Co.*, 246 U. S. 178, 191-2;
Lincoln Gas & Electric L. Co. v. *Lincoln*, 250 U. S. 256, 267.

In *Cedar Rapids Gas Co.* v. *Cedar Rapids, supra*, sometimes cited to the contrary, the Court pointed out that in valuing the property the fact that the plant was in successful operation was expressly taken into account, and what was excluded was the good-will or advantage incident to the possession of a monopoly.

So in *Des Moines Gas Co.* v. *Des Moines, supra*, it was held that where the value of the property was fixed upon the basis of a plant in successful operation and overhead charges had been allowed covering the cost of organizing and establishing the business, it cannot be said that the element of going value has not been given the consideration it deserves. As stated, the court however held that going concern value must be allowed, saying (p. 165):

> "That there is an element of value in an assembled and established plant, doing business and earning money, over one not thus advanced is self-evident. This element of value is a property right, and should be considered in determining the value of the property, upon which the owner has a right to make a fair return when the same is privately owned although dedicated to public use."

In the case at bar there was no evidence before the Special Master or the District Court which fixed or indicated the value of appellee's property in actual operation, or which included anything whatever for the element of going concern, other than the evidence of the experienced witness mentioned by the Special Master and the history of the property and enterprise. In the separate valuation of the physical property made by the Special Master here, no account whatever was taken of the element of going concern or of the cost and expense of putting the property into operation and establishing the business. The only allowance for going concern is that made by the Special Master in his finding No. 20, set out in full above. The amount so allowed and approved by the District Court is slightly less than 8 per cent of the value of the physical property.

In the recent cases of *Bluefield Water Works & Impt. Co.*, v. *P. S. C.* (262 U. S. 679), *Georgia Ry. & Power Co.*, v. *R. R. Comm.*, (262 U. S. 625), and *Southwestern Bell Tel. Co.*, v. *P. S. C.* (262 U. S. 276), the subject of going concern was not discussed by this Court, but it appears from the statements of fact that in each case the commissions had allowed 10 per cent, or substantially 10 per cent, of the value of the physical property for going concern. In *Southwestern Bell Tel. Co.*, v. *Fort Smith*, (294 Fed. 102), decree affirmed by this court January 25, 1926 (U. S.

), a going concern value of 10 per cent was allowed. Again, in *Mobile Gas Co.*, v. *Patterson* (293 Fed. 208), decree affirmed by this court April 26, 1926, (U. S.), a going concern value of 10 per cent of the physical valuation was allowed.

VI

The provision of the statute requiring appellee to furnish gas of a standard of not less than 650 British thermal units per cubic foot is an arbitrary and unreasonable exercise of the police power, compliance therewith is impracticable, and said provision is unconstitutional and void.

The decree appealed from adjudges that the provision of the statute fixing a standard of not less than 650 British thermal units per cubic foot is not a reasonable exercise of the police power and permanently enjoins the enforcement of such provision against appellee. In confirming the report of the Special Master, the District Court in its opinion specifically and especially approved his findings with respect to the impossibility of appellee rendering to its consumers safe and efficient service under a 650 British thermal unit standard (pp. 93, 94). The fundamental objection is that efficient and satisfactory service can only be rendered by supplying consumers with gas of a substantially uniform heat content, which cannot be done with a gas of so high a heat content as that prescribed by the statute. In the process of manufacture and distribution of gas having a heat content of 650 British thermal units there will be variations at the consumers' premises of as many as 200 British thermal units, while gas appliances ordinarily will not allow for a variation of more than 25 to 30 British thermal units above or below the mean average for which they are adjusted (finding 34). The scientific principles which call for a gas of a substantially uniform heat content as detailed by the witnesses are summarized in the opinion of the Special Master (pp. 52-55). The Special Master further found that the requirement of

the statute for gas of not less than 650 British thermal units per cubic foot—

> "neither safeguards the health, protects the morals nor promotes the general welfare; but on the contrary the furnishing of gas of such heat content would tend to, and actually would, imperil the life and health of the inhabitants and subject their property to unnecessary risks and hazards. Not one advantage either to plaintiff or to its consumers, individually or collectively, is secured by such a requirement. Compliance with the requirement is impracticable and impossible. Attempted compliance would only result in inefficient service and consequent dissatisfaction on the part of plaintiff's consumers, engendering a prejudice among them against plaintiff over a situation beyond its control, and plaintiff would suffer irreparable injury and damage in the loss of the good-will of its consumers" (finding 36).

All the findings of the Special Master as approved are incontestably supported and sustained by the uncontradicted testimony of four witnesses of extended experience in the gas business, each of whom testified that it was not only altogether impossible for appellee to furnish its consumers anything like satisfactory service under the 650 British thermal unit standard, but that the furnishing of gas of such standard would be attended with hazards to life and property.

Such is the testimony of Mr. Robert M. Searle, the president of the Rochester Gas and Electric Corporation, a consulting engineer of 39 years' experience in the gas business, who has conducted researches on the best method of making a useful high heat content gas (pp. 436, 438, 450); of Dr. John F. Wing, the engineer of research of the Boston Con-

solidated Gas Company, with American and European training in chemistry, and with 36 years' experience in the manufacture and distribution of gas (pp. 406-8); of Mr. A. Gordon King, the service engineer of the American Gas Association, a trade association representing 90 per cent. of the gas manufactured in America, a graduate of the City and Guilds of London Institute in gas manufacture and allied subjects, formerly gas engineer for the New York Public Service Commission for the Second District, and later gas engineer for the Commonwealth of Pennsylvania, who for over 20 years has made tests and investigations as to the utilization efficiencies of gases in respect to various degrees of heat content (pp. 472, 475); and of Mr. A. S. B. Little, formerly gas engineer of the Illinois Utilities Commission, who was produced as a witness by the Attorney General, appellant herein (pp. 677, 681).

Gas of as high heat content as that prescribed by chapter 899 of the laws of 1923, has never been supplied anywhere for general industrial and domestic uses (pp. 378, 432, 677). The standard prescribed is usually less than 550 British thermal units, and only in a few instances is a standard as high as 600 British thermal units prescribed (Appellee's Exs. Nos. 77 and 78). All witnesses were emphatic that efficient or satisfactory service is obtainable only by the furnishing of gas of a substantially uniform heat content. Uniformity in heat content is a prime essential of anything like satisfactory service (pp. 378, 436, 677). Gas for the most part is used in the Bunsen burner, which Mr. Searle said was so devised as to consume the largest possible quantity of gas in the smallest possible flame area. This result is accomplished by securing a suitable mixture of air with the gas before it is burned. The air is admitted through a shutter into a chamber through which the gas

passes to the tip of the burner. The quantity of air that should be admitted is dependent upon the richness or degree of heat content of the gas. A larger quantity of air is required for richer gas. It is obvious that as the heat content of the gas varies the mixture will not be balanced. When the heat content of the gas is increased without adjustment in the air shutter, a long yellow flame is produced, due to the insufficiency of air in the mixture, and the utensil to which the flame is applied is covered with a deposit of carbon. On the other hand, if the heat content of the gas is reduced, there is an over-supply of air, causing reduction in the flame area and often times a burning back in the air chamber, sometimes causing an explosion.

Now, if it is impossible to supply 650 British thermal unit gas uniformly, there cannot be satisfactory or efficient service, and this is the case. Gas of 650 British thermal units cannot be manufactured at the works with the same degree of uniformity of heat content as gas of a lower heat content. An increase in heat content is effected through the use of additional gas oil. To make gas of 537 British thermal units, for instance, requires approximately 2.83 gallons of gas oil per thousand cubic feet of gas made, while to make gas of 650 British thermal units would require at least 4.65 gallons of gas oil. Mr. Little testified that it would require at least 2 gallons more to make the higher British thermal unit gas. In the use of such large quantity of gas oil the witnesses say that it is impossible to make as stable gas or as uniform gas as when the smaller quantity of oil is used. But the great variations in heat content encountered in the supply of the high heat content gas are due to the effects of the varying temperatures to which the gas is subject in the holders and in the process of distribution. The additional gas oil used produces in the gas a

larger quantity of condensible hydrocarbons which drop out of the gas as the temperature falls, causing the heat content to be lowered and some are picked up again when the temperature rises and increase the heat content. These variations in heat content not only produce an unsatisfactory service but create hazards. The testimony of Mr. Little, appellant's witness, makes this clear. He testified (pp. 677, 680-1):

> "If the company got up to 650 as a minimum, of course it would be up and down; it would never be allowed to get down below 650. But 650 delivered would mean more than 650 made and there would be great fluctuation when the quality was delivered to a certain consumer and there would be greater fluctuations as between consumers, one consumer would have a great variety of qualities furnished to him in 24 hours, according to the temperature of the atmosphere. * * * He would get in 24 hours gas of considerable different qualities, if the company were trying to make 650. There would not be so much fluctuation every day, but if a cold spell came on there would be great fluctuations before the company could change the adjustments to take care of it. * * * I would characterize it as absolutely unsatisfactory service. * * * That gas (650 B.t.u.) has not been made, not consciously, as I put it in my direct. * * *
>
> "The increase in B.t.u. is due to the use of a larger quantity of oil. That is the only way you can get it. There would be more danger in the 650 supply. There is some danger with the other also; there is always a hazard, but the hazard would be increased with 650 B.t.u.'s, occasioned by the difficulty of maintaining a uniform quality when you get into the high B.t.u. values. For instance, a sudden change of temperature, a hailstorm on the holder full of gas would knock the B.t.u.'s down; if you would live up to a 650 B.t.u. standard, you would have to imme-

diately make something much higher and deliver adjacent to the plant a good deal more than 650, while on the outlying districts the variation would be very great, and close to the holder station it would be equally great, I think, because you cannot make gas and mix it thoroughly in a holder. It stratifies and short circuits between inlet and outlet pipes and some consumers close to the works might be getting 700 B.t.u. gas and then within 24 hours they might be getting 600 and there is the danger. There is the danger, the drop in the B.t.u.'s. There is not so much danger in a sharp rise in the number of the B.t.u.'s. it is when it comes down. I do not give so much attention to carbon monoxide from a rich gas; I think you can have just as much danger from weak gas; but there would be more chance of an explosion with the variation in the quality of the rich gas. It would be practical for plaintiff to start making 650 gas at the works so far as the works is concerned; but it would not be practicable so far as the distribution is concerned because plaintiff would have to change its appliances, then even if the appliances were changed, there would be this element of danger, not so much after the appliances have been changed. But there would be that hazard by loss of life probably, and the unsatisfactory service that I mentioned."

Mr. Searle, after speaking of the difficulty of controlling gas sent out with a 650 B. t. u. content, testified as follows:

"By 'controling it,' I mean in making a high B.t.u. gas all we know is to put in more oil. That is the only known means of accomplishing that high heat content that makes vapors that are precipitated seasonally and due to temperature changes in every part of the works, distribution, consumers' premises and meters. As the temperature changes, these vapors are picked up, the richness or B. t. u. content of the gas varies, the adjustment of the orifice and

air is constant, and the precipitation of carbon and the flame area due to interrupted combustion throws off carbon monoxide. It is entirely cumulative and is a very dangerous gas to distribute" (p. 436).

"Gas is fast becoming obsolete for illumination. It is absolutely, economically and morally desirable that a gas supplied to a body of consumers be of a uniform quality, as nearly as possible of uniform quality. It is a basic principle that has been aimed for by the gas fraternity, and it is a moral obligation on the fraternity to do this, because a gas of a uniform quality, with uniform pressures would permit of a uniform adjustment of orifice to air supply that would give a constant area of flame and a safe gas to distribute and be highly desirable" (pp. 436-7).

And referring to a gas appliance then before him, Mr. Searle further testified (p. 438):

"In this appliance it is highly desirable from the consumer's standpoint, both from the economic end and from the danger or menace of it, to have a uniform gas supplied at a uniform pressure, with uniform adjustment. There is no way of adjusting for a variable gas, and the consequence is that it is either precipitating carbon and blackening the various utensils under which a Bunsen burner may be used, which results sooner or later in an accident or cumulative poisoning of the consumer using the burner. It is particularly hazardous, as I see it, in all large cities, due to the growing use of the kitchenette poorly ventilated and depending upon gas exclusively for cooking, to use a variable B. t. u. gas. It cannot be made, with present machines, and men available, in any other way but a variable gas, if you make the standard required by the bill, 650 B. t. u. gas, or attempt to make it."

Dr. Wing in his testimony covered the entire subject and showed the necessity of furnishing gas of a uniform heat content and the utter impossibility of doing so in attempting to maintain a 650 B.t.u. standard. He testified.

> "For efficient consumption of gas and utilization of gas, it is desirable to have it as constant in B. t. u. content as possible. The constant heating quality necessarily goes with the leaner gas on account of the difficulties in making and distributing a rich gas which stays constant on account of the higher content of condensible vapors in it, and the higher base that it has to condense from. With a 650 gas you are likely under the best of operations, to have fluctuations in heating quality at times which will carry the gas outside the range of the adjustment of the burner. There are periods in a manufacturing plant when such things become uncontrollable for short intervals of time—not for a day, but for half an hour or an hour or longer. Gas consuming appliances on the whole are inclined to render better service with a leaner gas than with a richer gas" (p. 378).

Gas of 537 British thermal units may vary 5 per cent. from the standard on delivery to consumer, which is the limit of utilization of appliances without readjustment (pp. 441, 474). A 650 British thermal unit gas might vary 100 British thermal units either way from the standard (p. 441).

Since October, 1922, appellee has furnished gas in compliance with the order of the Public Service Commission, dated August 30, 1922, prescribing an average of 537, and a minimum of 525, British thermal units per cubic foot (Appellee's Exhibit No. 59). The appliances of appellee's consumers are adjusted to utilize such gas (p. 351) and consist mainly of gas ranges and water and room heaters

(p. 349). While the larger part of the appliances have adjustable burners, they are not so simple or easy to adjust that it can be done by consumers themselves. The adjustment of burners is distinctly a function of men trained to that work (p. 410). All the witnesses are in agreement that it is entirely impracticable and impossible for appellee to furnish 650 British thermal unit gas unless and until the appliances are adjusted or adapted for such gas. Twenty-one per cent. of the appliances are not adjustable and would have to be discarded (pp. 352, 353). Any attempt to adapt the appliances to gas of 650 British thermal units would require, first, an adjustment to approximately 600 British thermal units, and then an adjustment for the 650. The work would have to be done in two stages because it is impossible to change at once from a 537 gas to a 650 gas (pp. 377, 443).

No duty is cast upon appellee under the statute or under any rule of law to enter upon the premises of its consumers and adjust their appliances for the utilization of any particular standard of gas. How are the consumers to be compelled to make the adjustments and to discard appliances that are not adjustable and purchase new ones? Let it be remembered that until this very thing happens, plaintiff cannot undertake the furnishing of 650 British thermal unit gas. There is no question about this. The witnesses are agreed upon it and more than that it is a matter of common knowledge. The mechanics of gas-consuming appliances are not so complicated that the ordinary individual cannot understand their workings and know that a Bunsen burner that will efficiently consume 537 British thermal unit gas will not efficiently consume a 650 British thermal unit gas. The mixture of air in the burner without adjustment would be entirely wrong. A notification from ap-

pellee to its consumers to adapt their appliances to the higher heat content gas certainly would not be complied with. Unless it were complied with by all, it would be dangerous to undertake the furnishing of the gas. No argument is necessary to convince this Court that a mere notification from appellee or from the public authorities would be unavailing, especially when householders would have to go into the market and buy new appliances in many instances. If the legislature is so insistent that appellee's consumers shall have this kind of gas, it was necessary for it to provide a practicable means for compelling them to get in shape to use it. For instance, make it a penal offense for a consumer to fail to have on his premises after a certain date an appliance that was not adjusted suitable for the utilization of this quality of gas. But the legislature has done no such thing and there is no practicable means prescribed anywhere for bringing about the change in the appliances. This being so appellee is met at the threshold with an absolutely insurmountable barrier. Compliance is impossible from this one consideration alone—to say nothing about the unsatisfactory and inefficient service that would result even were all the appliances adjusted for the utilization of the gas.

Surely the police power of the State cannot go to such lengths. There is no demand for the product prescribed by the statute. The furnishing of it would benefit no one, and would injure every one by resulting in unsatisfactory service. Every such attempt by the legislature has been condemned by the courts.

The Transportation Corporations Law (sections 60-62) under which appellee was incorporated gives it the power to manufacture gas and to sell and furnish such quantities of gas as may be required in each city, town and village

named in its certificate of incorporation, for lighting the streets, and public or private buildings, or for other purposes, and requires it to supply gas as may be required under prescribed penalties for its refusal or neglect to do so. Judge Cooley (Const. Lim. 4th ed. p. 719), speaking of the regulation by the legislature under the police power of the conduct of a corporation such as plaintiff holding an inviolable charter, says:

> "The limit to the exercise of the police power in these cases must be this: The regulations must have reference to the comfort, safety and welfare of society; they must not be in conflict with any of the provisions of the charter, and they must not, under pretense of regulation, take from the corporation any of the essential rights and privileges which the charter confers. In short, they must be police regulations, in fact, and not amendments of the charter in curtailment of the corporate franchise."

The police power of the State must be exercised subject to the provisions of both the Federal and the State constitutions, "and the law passed in the exercise of such power must tend in a degree that is perceptible and clear towards the preservation of the lives, the health, the morals or the welfare of the community * * *, and the Court must be enabled to see some clear and real connection between the assumed purpose of the law and the actual provisions thereof, and must see that the latter do tend in some plain and appreciable manner towards the accomplishment of some of the objects for which the legislature may use this power" (*Health Dept.* v. *Rector*, 145 N. Y. 32, 39, 40). So this Court has held it to be well settled that legislative enactments undertaking to regulate useful business enterprises are subject to investigation in the Courts, with a view to determining whether the law is a lawful exercise

of the police power, or whether, in the guise of enforcing police regulations, there has been an unreasonable and arbitrary interference with the constitutional rights to carry on a lawful business, to make contracts, or to use and enjoy property (*Dobbins* v. *Los Angeles,* 195 U. S. 223, 236). In this case it was held that a city ordinance which prevented the carrying on of the business of making and selling gas was an arbitrary exercise of the police power and amounted to a taking of property without due process of law and an impairment of property rights protected by the Fourteenth Amendment to the Federal Constitution.

In a case analogous to that at bar, but which, however, did not present the feature of danger to the lives, health and property of the customers of the utility, through attempted compliance with the regulation, presented here, this Court did not hesitate to hold the regulation unreasonable and void (*South Covington Railway* v. *Covington,* 235 U. S. 537). A municipal ordinance provided, *inter alia,* that the temperature of the street cars of the plaintiff should never be permitted to be below 50 degrees Fahrenheit. In an action to enjoin the enforcement of the ordinance, this Court held that this provision was invalid, saying:

> "As to the regulation affecting the temperature of the cars, and providing that they shall never be permitted to be below 50° Fahrenheit, the undisputed testimony shows that it is impossible in the operation of the cars to keep them uniformly up to this temperature, owing to the opening and closing of doors, and other interferences that make it impracticable. We therefore think, upon this showing, this feature of the ordinance is unreasonable and cannot be sustained" (pp. 548-9).

Appellee undertakes to furnish its consumers with the quality of gas best adapted to their uses and purposes. Both such consumers and appellee have expended considerable money and effort harmonizing and co-ordinating their respective functions. That is, appellee, in connection with the studies of the Public Service Commission, has ascertained the needs of said consumers and has adapted its gas making operations to the production of a gas suitable and efficient to meet such needs, and the consumers on their part have procured, or have adapted their gas using and consuming appliances to the kind and quality of gas furnished by appellee. The situation of harmony so created has been ratified by the Public Service Commission through the order of August 30, 1922, fixing the standard of heat content at 537 British thermal units. In so co-ordinating its business with the needs and requirements of its consumers, appellee was but exercising a right of management which this Court has held cannot be interfered with and set aside by an arbitrary and unreasonable regulation. In *Chicago, Mil. & St. Paul R. R. Co.* v. *Wisconsin* (238 U. S. 491), the Court considered an enactment of the Legislature of Wisconsin denouncing a penalty upon sleeping car companies if, the lower berth being occupied, the upper berth was let down before it was actually engaged. In holding that this enactment was violative of the Fourteenth Amendment to the Federal Constitution, the Court said:

> "It is not necessary to refer to the evidence on that subject (right of privacy of occupant) because it is a matter of common knowledge that to let down the upper berth during the night would necessarily be an intrusion upon the privacy of those occupying lower berths. For the glare of the lights and the noise of lowering the upper berth would disturb any except the soundest sleepers. *In this respect the*

> *statute would lessen the ability of the Company to furnish the place of sleep and rest which it offers to the public.* A sleeping car may not be an 'inn on wheels,' but the operating company does engage to furnish its patrons with a place in which they can rest without intrusion upon their privacy. Holding out these inducements and seeking this patronage, the company is entitled to manage its business in its own way so long as it does not injuriously affect the health, comfort, safety and convenience of the public, The right of the State to regulate public carriers in the interest of the public is very great. But that great power does not warrant an unreasonable interference with the right of management or the taking of the carrier's property without compensation" (p. 500).

Burns Baking Co. v. *Bryan* (264 U. S. 504) contains one of the latest expressions of this Court on this subject, holding certain restrictions on the weight of bread to be unreasonable and arbitrary and repugnant to the Fourteenth Amendment. The Court said (pp. 515, 516):

> "As indicated by the opinion of the State Supreme Court, ingredients selected to lessen evaporation after baking would make an inferior and unsalable bread. It would be unreasonable to compel the making of such a product or to prevent making of good bread in order to comply with the provisions of the act fixing maximum weights. The act is not a sanitary measure."

The great purpose of the constitutional requirement of due process of law is to exclude everything that is arbitrary and capricious in legislation affecting the rights of the citizen. It does not mean to leave room for the play and action of purely personal and arbitrary power (*Dent.* v. *West Virginia*, 129 U. S. 114, 124). It is intended to se-

cure the individual from the arbitrary exercise of the powers of government unrestrained by the established principles of private rights and distributive justice (*Scott* v. *McNeal*, 154 U. S. 34, 45).

The theory of our governments, state and national, is opposed to the deposit of unlimited power anywhere. A government, by whatever name it is called, under which the property of citizens is at the absolute disposition and unlimited control of any depository of power, is despotism (*C. B., etc. R. R. Co.* v. *Chicago*, 166 U. S. 226, 237). The forceful and oft-quoted statement of Mr. Justice Brewer in *Reagan* v. *Farmers L. & T. Co.* (154 U. S. 362, 399), best expresses the judicial attitude upon such questions. He said:

> "This * * * is a government of law, and not a government of men, and it must never be forgotten that under such a government, with its constitutional limitations and guarantees, the forms of law and the machinery of government, with all their reach and power, must in their actual workings stop on the hither side of the unnecessary and uncompensated taking or destruction of any private property, legally acquired and legally held."

The provision of section 67-a here in question was enacted under the police power of the state and as a regulation of appellee's business and must be tested as such. The rule of the foregoing cases is that to be valid such a regulation cannot be arbitrary and capricious, but it must be just and reasonable, and must tend in a degree that is perceptible and clear towards the preservation of the lives, the health, the morals or the welfare of the community, and the Court must be able to see that the regulation does tend in some plain and appreciable manner towards the accom-

plishment of some of these objects. The proof here is clear and undisputed that the provision in question has no such purpose and no such tendency, but on the contrary it tends in a degree which is plain and admitted to endanger the lives and health of appellee's consumers and is destructive of the welfare of the community.

The provision of the act with respect to the thermal content of the gas to be supplied in appellee's territory is positively unconstitutional and void and would be so were it a separate enactment entirely apart from the fixation of any rate, and was properly so adjudged.

VII

The decree properly omits provision for the vacation of its injunctive provisions on a change of conditions, so usual in decrees in confiscation cases.

Ordinarily, when a decree is made declaring a rate confiscatory and enjoining its enforcement, a provision is inserted authorizing the public authorities enjoined to apply for a modification of the injunctive features of the decree on a showing that through changed conditions as to operating costs, or otherwise, the enjoined rate is no longer confiscatory (*Lincoln Gas and Electric Light Co.* v. *City of Lincoln*, 250 U. S. 256, 268; *Willcox* v. *Consolidated Gas Company*, 212 U. S. 19, 54). But such a provision would have no place in the decree in this case and has been properly omitted therefrom, since whatever may be the changes with respect to the cost of manufacturing gas in the future, the defendants or their successors will never be entitled to have the injunction against the enforcement of the rate vacated. As shown in the argument under Point II (*supra*), the one dollar rate fixed by the statute is for a gas of the heat content of 650 British thermal units per cubic foot, and for no other kind or quality of gas, and the District Court has so held. And it has been established in this case beyond the peradventure of a doubt that it is utterly impracticable and unsafe for appellee to attempt to furnish gas of such heat content. The injunction as to the rate could not be vacated without at the same time vacating the injunction as to the standard; but the impracticability and the danger inherent in furnishing, or attempting to furnish, gas of 650 British thermal units is a permanent and continuing condition in no way connected with or affected by possible fu-

ture changes in the cost of manufacturing and distributing gas. If an application should be made at the foot of the decree for the vacation of the injunction as to the rate on a claim that appellee could furnish gas for one dollar per thousand cubic feet, the question would arise as to what kind of gas is to be furnished. By the decision of the District Court this question has already been answered, viz., gas having 650 British thermal units per cubic foot—a standard which the District Court has held to be impracticable and unsafe—a ruling which we are confident this Court will affirm. The nature of the decree, therefore, due to the fixed and irremovable impracticability of furnishing gas for which the rate of one dollar is prescribed by the statute, renders a reservation of the right to move for its vacation unnecessary and improper.

VIII

The decree appealed from should be affirmed with costs.

Respectfully submitted,

SAMUEL F. MORAN,
JOHN D. MONROE,
Of Counsel.

New York, October 15, 1926.

APPENDIX

Text or definition of expense account, Retirement Expense, and of balance sheet account, Retirement Reserve,

contained in the Uniform System of Accounts for Gas Corporations prescribed by the Public Service Commission of the State of New York by its order dated December 19th, 1923, and effective at the option of the several corporations from January 1st, 1923, received in evidence as appellee's exhibit 88.

> RETIREMENT EXPENSE. An account is provided in which to include charges made in order that corporations shall, through the creation of adequate reserves, equalize from year to year, as nearly as is practicable, the losses incident to important retirements of buildings, etc., or of large sections of continuous structures like gas mains, or of definitely identifiable units of plant or equipment. "Losses" used above means in each case the excess of the original cost to the accounting company of the property retired plus the cost of dismantling or removing, over its salvage value at the time of its retirement. The cost of replacing minor parts, which is not recorded by any entries in the fixed capital accounts, and which is commonly called the cost of "repairs" or "maintenance" as distinguished from the cost of "replacements" of large units, need not be provided for through a retirement reserve. The amounts appropriated from surplus plus amounts charged to retirement expense should be upon a basis determined to be equitable according to the accounting company's experience and best sources of information, and should in all cases be sufficient to provide during a period of years a reserve against which can be written off all losses sustained upon the retirement of property for any cause whatsoever. A statement of the rule used by the accounting company for deter-

mining retirement expense accruals shall be included in its annual report to the Commission. If the accounting company so desires, it may file with the Commission a verified copy of its rule and refer to such rule in its annual report in place of repeating it in full each year.

RETIREMENT RESERVE. To this account shall be credited such amounts as are charged to the operating expense account "Retirement Expense," appropriated from surplus, or both, to cover the retirement loss represented by the excess of the original cost, plus cost of dismantling, over the salvage value of fixed capital retired from service. When any fixed capital is retired from service, the original cost thereof (estimated if not known, and where estimated, the facts on which the estimate is based should be stated in the entry) should be credited to the proper fixed capital account and charged, plus the cost of retirement, less salvage, to this account. If the credit balance in this account is insufficient to cover the retirement loss, the excess over the balance contained in the reserve should be charged to account No. 132, "Property Abandoned," which see, or to other appropriate account.

The losses which this account is intended to cover are those incident to important retirements of buildings, of large sections of continuous structures, like gas mains or of definitely identifiable units of plant or equipment, and the object of the account is that the burden of such losses may be as nearly as is practicable equalized from year to year. No portion of the amount reserved for retirement shall be diverted to Surplus, or other use made thereof, except as above provided, without the approval of the Commission.